

**EFFECT OF SUDARSHAN KRIYA YOGA ON DEPRESSION
AMONG ALCOHOLICS AT SELECTED
DE-ADDICTION CENTRE, COIMBATORE**

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The Tamil Nadu Dr. M.G.R Medical University,
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In Partial Fulfillment of the Requirement for the
Award of the Degree of
MASTER OF SCIENCE IN NURSING

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This is to certify that the dissertation entitled "**Effect of Sudarshan Kriya Yoga on Depression Among Alcoholics at Selected De-Addiction Centre, Coimbatore**" is a bonafide work done by Ms. **Asha R.V., College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences** in partial fulfillment of the University rules and regulations for award of **M.Sc. Nursing Degree** under my guidance and supervision during the academic year **2016**.

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Abstract

The main aim of the study was to assess the effect of Sudarshan Kriya Yoga on Depression among Alcoholics at selected De-addiction Centre. The research design used for the present study was a Quasi experimental Non equivalent control group design. Using purposive sampling technique 40 samples were recruited, 25 in experimental group and 15 in control group. Depression was assessed using Beck depression Inventory (Aron T Beck 1967). Sudarshan Kriya yoga was administered to participants in group. After seven days of intervention post assessment was done to evaluate the effect of Sudarshan Kriya Yoga. The collected data were statistically treated with descriptive and inferential statistical techniques. The mean Depression score of experimental group was 14.84 and control group was 26.53 with a standard deviation of 3.201 and 3.85. The calculated 't' value was 10.43 which is greater than the table value that shows there significant difference in the level of depression between the experimental and control group. The calculated 't' value (18.05) in the experimental group was greater than the table value, where as in control group there is no significant change. When comparing both groups, the experimental group showed greater reduction on depression. Hence it was concluded that Sudarshan Kriya Yoga reduced the level of depression among Alcoholics.

INTRODUCTION

Alcoholism is a broad term used to mean uncontrolled consumption of alcoholic beverages, usually to the detriment of the drinker's health, personal relationships, and social relationships. It can be described in other terms specifically "alcohol abuse", "alcohol dependence" and "alcohol dependence syndrome". People addicted to alcoholism are often called "alcoholics" (WHO, 2004). Alcoholism has a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated alcohol use and that typically includes a strong desire to consume, difficulties in controlling its use, persisting in its use despite harmful consequences (ICD 10, 2006).

Alcoholism is called a "dual disease" since it includes both mental and physical components. Social environment, stress, mental health, family history, age, ethnic group, and gender all influence the risk for the Alcoholism. Long-term alcohol abuse produce changes in the brain's structure and lead to alcohol tolerance and physical dependence. These changes make the person with compulsive inability to stop drinking and result in alcohol withdrawal syndrome if the person either stops or reduce the alcohol intake. Alcohol damages almost every organ in the body, including the brain. The cumulative toxic effects of chronic alcohol abuse can cause both medical and psychiatric problems (Shukula, T.R.2001).

It is medically considered as a disease, specifically neurological disorders Wernicke-Korsakoff syndrome, alcoholic neuropathy, alcoholic cerebellar degeneration, alcoholic myopathy are caused due to alcoholism.

Excessive drinking can lead a person to become violent, to spend more time away from home, to leave family members. Violence between husbands and wives often occurs in situations when one or both partners have been drinking. Excessive drinking by one or more family members results in several negative consequences for others in the family especially for the wife and children of male drinker. These effects are particularly serious for the family with low income, where much of the family income may be used to buy alcohol, wages may decline, and the drinker may eventually lose his jobs. In such situation the wife and children are forced into work, often in low paid, hazardous job. Children may be unable to continue their schooling and may suffer from nutritional deficiencies, because there is not enough to eat at home (Saxena,S.2001).

Genetic factors play a significant role in the causes of alcoholism. When addiction runs in a family, there is an increased chance of addictive tendencies in the upcoming generations. Factors include issues such as poverty, unemployment, loss of job which leads to alcoholism. People who suffer or have suffered physical and or sexual abuse will sometimes turn to drugs and alcohol as a way of responsiveness to their internal pain. Mental issues such as depression will also cause people to turn to alcohol to feel better. Those who suffer with low self-esteem, high self-expectations, having a low frustration tolerance, feeling inadequate and unsure of one's roles, needing an inordinate amount of praise and reassurance, and having a tendency to be impulsive and aggressive may turn to alcohol as a form of liquid courage (National Institute on drug abuse, 2013).

Another factor for causes of alcoholism is social and peer pressure. Some people begin drinking socially and gradually develop an abusive relationship with alcohol. They start drinking with friends, after few days they drink at every social function and feel an overwhelming urge to drink, even if alcohol is not part of the event (National Institute on drug abuse, 2013).

Alcohol is associated with many serious social and developmental issues which includes violence, child neglect or abuse and absenteeism in the workplace. It also causes harm, far beyond the physical and psychological health of the drinker. Moreover it harms the well-being and health of the family members. An intoxicated person can harm others or put them at risk of traffic accidents or violent behavior or negatively affect co-workers, relatives and friends or strangers. Thus, the impact of the harmful use of alcohol reaches deep into the society. Anxiety commonly presents as a symptom of alcohol withdrawal, initially in the form of 'shakes and sweats' as the blood alcohol level declines (Cherney, 2014).

There are believed to be 62.5 million people in India who occasionally drink alcohol. Unlike many Western countries the consumption of alcohol in India is witnessing a dramatic rise – for instance, between 1970 and 1995 there was a 10.67% increase in the per capita (this means per individual in the population).

A prospective study examined 100 cases of alcohol intake (males only). It was found that the most common age group of starting alcohol intake was 21-30 years age group (60%) and the urban population was mainly affected (57%). The most commonly used beverage was whisky (41%) followed by beer (20%). The most common reason for starting alcohol intake was found to be curiosity (67%). The study also found that 25% of the cases had road accidents while under the effect

of alcohol. Only a minority of the cases (3%) were members of Alcohol Anonymous or other such organization involved in encouraging people to give up alcohol (Bullar, D.S. 2013).

A survey was conducted regarding the alcohol consumption in Goa (rural 16.8 %; urban 13.6 %). About 28.6 % (rural 31 %; urban 27.2 %) of current drinkers reported monthly or more frequent heavy episodic drinking and drunkenness, respectively. Lower education and lower standard of living (SLI) were associated with higher usual quantity of alcohol consumption (Pillai, A. 2012).

Depression in the modern world is a common phenomenon. Depression is one of the most common mental disorders affecting 340 million people in the world. Depression affects so many people that it is often referred to as the ‘common cold’ in psychiatry. People with depression may exhibit feelings of sadness, hopelessness, fatigue and suicidal tendencies. Alcohol affects the brain in similar ways that anxiety and depression affect the brain (Shaw, J. 2010).

In India a high prevalence of major depression (41.7%) was found after episodes of drinking which led to hospitalization. However, within a few days of detoxification from alcohol, only few of them had depressive symptoms amounting to major depression (17.64%) (Garland E L., 2007). The prevalence rate of alcoholic depression in the states of Tamil Nadu shows in Chennai the prevalence rate of alcoholic depression was 15.1% (Hyman S E., 2010) and in Coimbatore the prevalence rate of alcoholic depression was 18.19% (Joseph R A., 2010) .

Alcohol induced depression is more common these days as upto fifty percent of alcoholics exhibit symptoms of major depression during a given period of time. Heavy, frequent drinking increases the vulnerability to become depressed. Alcoholism has a debilitating impact on overall health and emotional well-being, work and relationships (Shaw,J. 2010).

Alcohol abuse or dependence can have negative consequences on behavior, work and family life. In extreme cases, it can cause irrational fears, trembling, weakness or feelings of losing control (Shaw, J. 2010).

Treatment for alcoholism will be differ from person to person. A quality treatment program not only addresses the problem drinking, but it also addresses the emotional pain and other life problems that contribute to drinking .In general, the longer and more intense the alcohol use, the longer and more intense the treatment. Various treatment programmes may involve brief interventions including individual or group counseling, an outpatient program, or a residential inpatient stay, learning skills, psychological counseling and continuing support (WHO, 2014).

Many residential treatment programs include individual and group therapy, marital therapy, behavioural modification therapy, relapse prevention therapy, aversion therapy, participation in alcoholism support groups such as Alcoholics Anonymous, educational lectures, family involvement, activity therapy, and working with counselors, professional staff and doctors experienced in treating alcoholism (Batra et al., 2009). There are other therapies that are used for substance abuse individuals that is alternative therapies available such as yoga, meditation, acupuncture (Nambi S., 1998). Various rehabilitation programs are available such

as State Supported Rehabilitation Programs, Mutual Support Groups, Alcoholics Anonymous, Faith-Based Alcoholism Programs, Christian recovery programs and online Recovery Support. (Buddy T., 2010). Various Intervention programmes are rendered in de addiction cum rehabilitation, counselling and awareness centres, de addiction centres, hospitals based rehabilitation centers, long term residential treatment hospitals and substance abuse clinics abuse (Batra et al., 2009) .

The word yoga (in Sanskrit) means “to unite” or “to join.” Most scholars agree that the term refers to the unity of body and soul, or the mind and the body. There are many different types of yoga and all of them benefit to different categories of people. Yogaasanas are the simplest and the easiest way to reduce excess weight and meditating ones body and mind. The ancient practice types of yogaasanas provides a wide range of mind and body benefits, including other benefits like giving strength and flexibility, stress relief and even cures many diseases. Yoga has been developed in India some five thousand years ago and is attributed to an Indian physician and Sanskrit scholar named Patanjali. The ultimate goal of yoga is to unite the human soul with the universal spirit. Yoga has been found to be especially helpful in relieving stress and in improving overall physical and psychological wellness (Townsend C.M., 2010).

Sudarshan Kriya Yoga is a modern breathing technique rooted from the ancient yogic tradition that shows promising results as an adjunct therapy for depression, panic attack disorder, and general anxiety. The therapeutic effect is believed to be based mainly on the rebalancing of the sympathetic nervous system and parasympathetic nervous system where a positive effect on the stress mechanisms, anxiety and mood related ailments. Kriya is a form of yoga that uses

controlled breathing to assist meditation. While engaging in kriya breathing, one must concentrate on the conscious inhalation and exhalation of the breath. It is shown that kriya reduces stress, depression and anxiety by calming the mind and heightens awareness of the physical body (Shankar, R. 1990).

Sudarshan Kriya Yoga (SKY) or “proper vision by purifying action” is an advanced form of cyclic breathing at varying rates- slow, medium and fast. Sudarshan Kriya and accompanying Breathing Techniques demonstrated 68-73% success rate in treating people suffering from depression. Bhastrika Pranayama (“Bellows Breath”) which is a very effective pranayama for depression and anxiety; detoxifies the body and purifies the mind; creates internal heat and stimulates metabolism; good for weight loss; balances and strengthens the nervous system, inducing a peaceful and focused state of mind. They are effective in alcoholic depression and anxiety (Shankar, R. 1990).

A study was conducted regarding Sudarshan Kriya Yoga (SKY) in the treatment of stress, depression and anxiety, and the findings revealed that Beck Depression Inventory score was significantly reduced. In the SKY group, prolactin levels increased significantly and cortisol levels declined significantly compared to the control group (Brown Richard P. 2005).

1.1 Need for the Study

The World Health Organization estimates that there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorders. Worldwide per capita consumption of alcoholic beverages equaled 6.3 liters (WHO, 2011).

In India the prevalence rate of alcohol consumption was found to be that

persons who took for 12 months were between 19 - 34% regular users in last 30 days 6 - 10%, problematic Alcoholics 5% and women (mostly abstainers) more than 90%. Persons who, Never use Alcohol were 25 - 74%. A recent National Household Survey of Drug Use recorded alcohol use in the past year in India. The prevalence of current use of alcohol ranged from 34.4% to 56.7% in the state of Chandigarh, Jaipur, Ranchi, Kolkata, Lucknow and Siliguri and 16.7% to 34.4% in Delhi, Chennai, Bangalore, Thrissur, Guwahati, Nagpur and Patna (WHO, 2004).

India is producing 70% of total alcoholic product in South East Asia and importing 10% of its alcoholic consumption. Tamil Nadu ranks first among states with large number of alcoholics (Prakash P.K. 2010).

Mumbai is one of the most liberal cities in India when it comes to attitudes towards alcohol. Mumbai is much more accepting of women drinking than the rest of India, and alcohol is much more easily available than many cities of India (Arora, S. 2008).

The highest consumption levels are recorded in Pondicherry, Chandigarh, Goa and Delhi in that order. Since all of these have lower taxes on alcohol than other states, their consumption numbers are almost certainly boosted by people from across the border buying cheap liquor. In the case of Pondicherry and Goa, the high volume of tourist relative to the local population could also be contributing to the high consumption figure (Arora,S. 2008).

Andhra Pradesh is the largest consumer of beer (over 18% of beer sold in India) followed by Maharashtra, Tamil Nadu, Karnataka and Rajasthan. Together these states account for nearly 60% of the beer consumed in the country (Arora, S. 2008).

Kerala has the highest per capita consumption of alcohol in India and is among the drunken leaders of the world, at a mind- blowing consumption rate of 8.3 liters per person. 14% of the alcohol consuming population in Kerala is below 21 years of age (Rajan, K.J. 2009).

In Tamil Nadu about 11% of the respondents consumed alcohol in past 30 days and 15% consumed in past 12 months. Only 3% respondents were past drinker. Percentage of lifetime abstainer to alcohol was high in urban (85%) as compared to that in rural respondents (81%). Rural men were more likely to consume alcohol (23% in past 30 days and 33% in past 12 months) than urban men (19% in past 30 days and 26% in past 12 months) (Katoch, V.M. 2008 - 2009).

In Tamil Nadu the whole production and sale of alcohol is controlled by the Government Company called TASMAC (Tamil Nadu State Marketing Corporation) which has nearly 7000 sale outlets and about 30,000 employees. Reports on profit suggest that in 2005-06, the annual revenue was about 7,335 crores of Indian rupees. The most recent data (2011-12) showed annual revenue of an astonishing 18,018 crores of Indian rupees (Kumar, D.L.S. 2012).

A high prevalence of major depression was found for the alcoholics which led to hospitalization (41.7%). However, within a few days of detoxification from alcohol, only few of them had depressive symptoms amounting to major depression (17.64%) (Khalid, A. 2000).

Researchers have examined parenting and family environment in an attempt to understand both the transmission of alcoholism from generation to generation and the causes of alcohol use and misuse in the wider population. In general, low

levels of parental emotional support and a lack of control and monitoring of child behavior are linked to other adolescent problem behaviors, such as smoking and early sexual activity and drinking (Jacob and Leonard (1994) Evidence suggests that children of alcoholics grow up in homes in which parenting and the family environment are poor (Zucker et al. 1996). In families with heavily drinking fathers, researchers have found disturbances in attachments between mothers and children. (Eiden and Leonard 1990).

Patterns and levels of alcohol consumption, alcohol dependency and alcohol abuse are determined by many factors; such as availability, income per capita, retail process, individual factors (genetic and environmental) such as age of first use, family history, education, peer group pressure, psychosocial factors, cultural, historical context and government policies such as taxation, restrictions on advertisement and promotion. (Wikipedia, 2014).

There are 26 De-Addiction centers in Tamil Nadu and 14 centers are there in Coimbatore which provide treatment for detoxification and therapies like individual counselling, group therapy, spouse counselling, family counselling, yoga and rehabilitation for needy patients. Beyond this treatment modalities, Sudarshan Kriya Yoga helps the alcoholic patients to reduce the depression level, anxiety, stress and hypertension. The different literatures regarding alcohol dependence suggests that they are facing many problems in society, occupational areas, emotional aspects and financial crisis.

Sudarshan Kriya Yoga helps to detoxifies the body and purifies the mind also helps in decreasing the symptoms of depression and anxiety.

In India both National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, and All India Institute of Medical Sciences (AIIMS), Delhi have been carrying out research on Sudarshan Kriya Yoga (SKY) on treatment of mental depression. NIMHANS researchers claim that SKY is as effective as anti-depressant drug like imipramine, a tricyclic antidepressant (Agarwal, D.P. 2000).

Effect of Sudarshan Kriya Yoga on depression shows that there was 67-73% success rate that is relief from depression regardless of the severity of depression. A well being hormone called plasma prolactin level decreases leads to depression. This hormone increased significantly after the very first SKY session. Level of plasma cortisol (Stress hormone) decreased significantly after three week (Harvard health publications, 2004).

A study compared 30 minutes of SKY breathing done for 1 group bilateral electro convulsive therapy for 2nd group and tricyclic anti depressant to 3rd group. Total sample was 45 after 4 weeks of treatment 93% of those receiving electro convulsive therapy, 73% of those taking imipramine and 67% of those using breathing technique achieved remission (Janakramaiah 2000).

The main benefit of yoga is to reduce depression and anxiety. Depression which affects large number of people in the world. Yoga has the direct effect of neurotransmitter of the brain. Practicing yoga will increase the serotonin which involved in depression (Enayati, A. 2013).

Considering the above facts, the researcher is interested to implement Sudarshan Kriya Yoga, in order to reduce the level of depression among Alcoholics.

1.2 Statement of the Problem

Effect of Sudarshan Kriya Yoga on Depression among Alcoholics at selected De- addiction Centre, Coimbatore.

1.3 Objectives

- 1.3.1 To assess the level of depression among alcoholics who are admitted in de addiction centre.
- 1.3.2 To evaluate the effect of Sudarshan Kriya yoga on depression among alcoholics.
- 1.3.3 To associate the level of depression among alcoholics with selected Variables.

1.4 Operational Definition

1.4.1 Effect

It refers to the decrease in the level of depression among alcoholics after implementation of Sudarshan Kriya Yoga.

1.4.2 Sudarshan Kriya Yoga

Sudarshan Kriya Yoga refers to demonstrating and guiding to practice Sudarshan Kriya Yoga (It includes three step procedure, includes Ujjaayi pranayama (10 minutes), Bhastrika pranayama (10 minutes), Cyclical breathing includes slow, medium and fast cycles of breathing for 15 minutes followed by yoga Nitra for 10 minutes.

1.4.3 Depression

Depression is referred as a state of physical and mental dysfunction that occurred due to excessive consumption of alcohol and identified in Beck depression inventory among clients admitted in de addiction centre.

1.4.4 Alcoholics

Alcoholics refers to individuals who are admitted and are hospitalized for receiving treatment in selected de-addiction centre for duration of minimum 7 days.

1.5 Hypotheses

1.5.1 H₁ : There will be a significant difference in the level of Depression among Alcoholics in experimental group before and after implementation of Sudarshan Kriya Yoga.

1.5.2 H₂ : There will be a significant difference in the level of Depression among alcoholics in experimental and control group after implementation of Sudarshan Kriya Yoga.

1.6 Conceptual Frame Work

Conceptual framework helps to express abstract ideas in a more reality, understandable, and precise form of the original conceptualization. The conceptual framework for this study was adapted from **Wiedenbach's helping art of clinical nursing theory (1969)**.

According to Ernestine Wiedenbach's nursing is nurturing and caring for someone in a motherly fashion. Nursing is a helping service that is rendered with compassion, skill and understanding to those in need for care, counsel and confidence in the area of health. The practice of nursing comprises a wide variety of services each directed toward the attainment of one of its three components.

Step 1: Identification of a Need for Help

Step II: Ministration of help needed

Step III: Validation that need for help was met

Central purpose

According to the theorist the nurse's central purpose defines the quality of health. She desires to effect or sustain her patient and specifies what she recognizes to be her special responsibility in caring for the patient.

In this study, the central purpose is to reduce the level of depression among alcoholic dependents in selected de-addiction centre.

Step 1 : Identification of a need for help

In this study, the general information which comprises the Age, Educational status, Occupational status, Religion, Monthly income, Area of residence, Marital status, Number of children, Number of times admitted in the hospital, Duration of alcohol intake, Age at first alcohol taken, Occasion of drinking, Mode of introduction, Type of drink, Intake of alcohol without companionship Pretest was done to assess the level of depression by using Beck Depression Inventory scale.

Step II : Ministration of the help needed

According to the theorist, in ministering to the patient, the nurse may give advice or information, make referral, apply a comfort measures or carry out a therapeutic procedures. The nurse will need to identify the cause and if necessary make an adjustment in the plan of action.

Ministration of help needed has two components,

1. Prescription
2. Realities

1. Prescription

According to the theorist a prescription is directive to activity. It specifies both the nature of action that will most likely lead to fulfillment of the nurse's central purpose and the thinking process that determines it.

In this study prescription is plan of care to achieve the purpose which includes teaching Progressive Sudarshan Kriya Yoga and practicing Sudarshan Kriya Yoga for 2 hours in the evening for 7 days by the alcoholics with depression.

2. Realities

According to the theorist, the realities of situation which the nurse is to provide nursing care. Realities consist of all factors- physical, physiological, emotional and spiritual those are at play in a situation in which nursing actions occur at any given moment. Wiedenbach's defines the five realities as the agent, the recipient, the goal, the means, and the framework.

1. Agent

According to the theorist, the agent is the practicing nurse or her delegate is characterized by personal attribute capacities, capabilities and most importantly commitment and competence in nursing.

In this study, the investigator is the agent.

2. Recipient

According to the theorist, the recipient is the patient characterized by the personal attributed problem, capabilities aspirations and most important is the ability to cope with the concerns or problem being experienced.

In this study, the recipients are alcoholics who are admitted in selected de-addiction centre.

2. Goal

According to the theorist, the goal is the desired outcome the nurse wishes to achieve. The goal is the end result to be attained by the nursing action.

In this study, it refers to reduce the level of depression among alcoholics who are admitted in selected deaddiction centre.

3. Means

According to the theorist, the means comprise the activities and devices through which the practitioner is enabled to attain her goal. The means include skilled techniques, procedures and devices that may be used to facilitate nursing practice.

In this study, it refers to implementation of Sudarshan Kriya Yoga by alcoholics for 7 days.

5. Framework

According to the theorist, the framework consists of the human, environmental, professional and organizational facilities that not only make up the context within which nursing is practiced but also constitutes currently existing limits.

In this study, it refers to the Karunai Maruvalvu Maiyam Coimbatore.

Step III: Validation that need for help was met

According to the theorist the third component is validation. After help has been ministered the nurse validates that the actions were indeed helpful. Evidence must come from the patient that the purpose of the nursing action has been fulfilled.

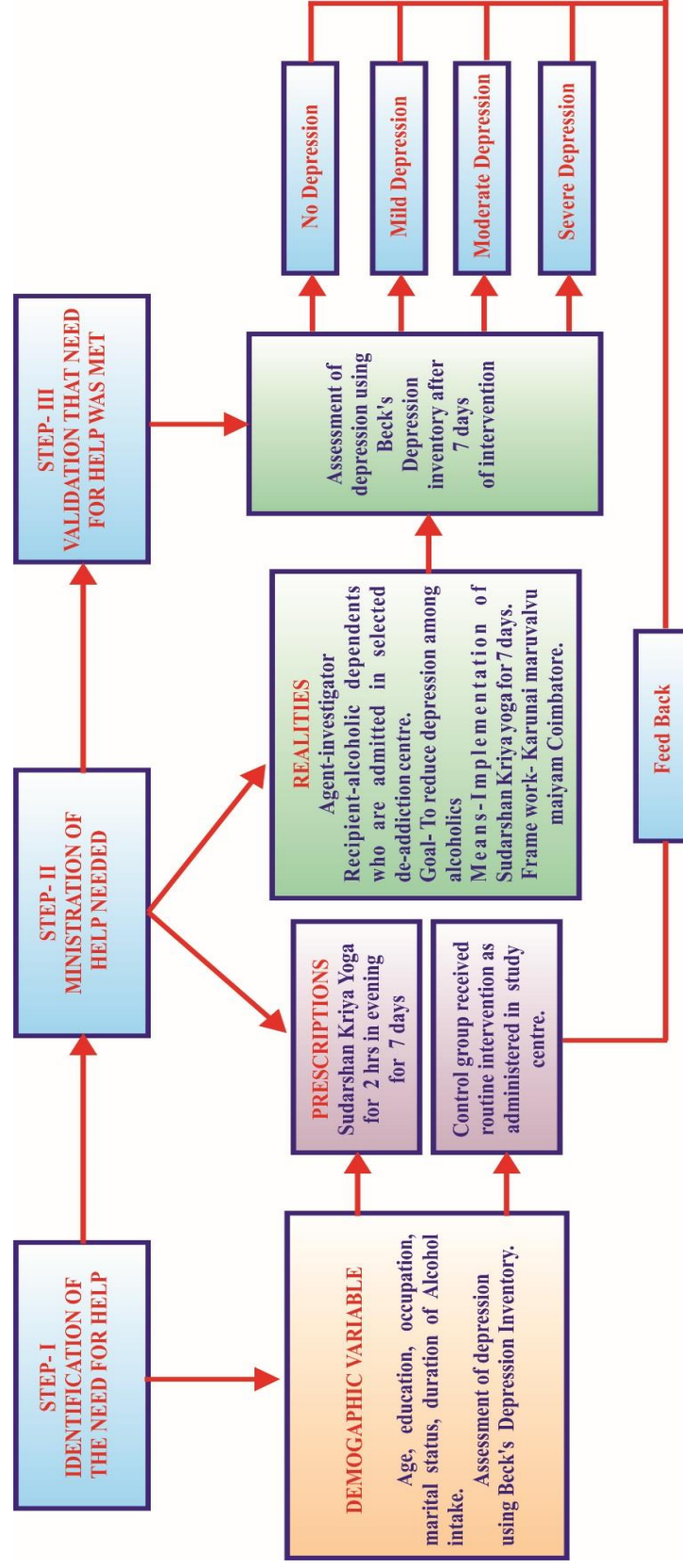
In this study, validating the need for help was met by means of post assessment of level of depression which was done after 7 days of intervention. Positive outcomes are presence of mild level of depression and normal. Negative

outcomes are presence of moderate level of depression which in turn may need ministering the needed help.

1.7 Projected outcome of the study

Administration of Sudarshan Kriya Yoga to decrease the level depression among alcoholics.

Figure 1 : CONCEPTUAL MODEL BASED ON MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY (1969)



Resource: Journal of Clinical Nursing, 2012)

REVIEW OF LITERATURE

Literature is an essential component of the investigator for a greater understanding of the research problem and its major aspects. It provides an opportunity to evaluate many different approaches to the problems. First it is necessary to obtain the most current facts relevant to the problem, and secondly a thorough literature review will assist the selection or development of the theoretical and methodological approaches to the problem.

The literature gathered by the researcher was discussed under the following sections.

- 2.1. Literature related to Depression among Alcoholics.
- 2.2. Literature related to Sudarshan Kriya Yoga.
- 2.3 Literature related to effect of Sudarshan Kriya Yoga on depression among Alcoholics.

2.1 Literature Related to Depression Among Alcoholics

Kuria, (2012) conducted a community based detoxification study among 188 participants in goa, shows majority were males (91.5%) and initiation of drinking before 21 years (60.8%). The mean age of the participants were 31.9 years and majority of them below 41years (84%). The prevalence of depression rate reduced to 30.2% from 63.8% after 6 months of detoxification. The study concluded there was a statistically significant reduction in the prevalence of depression among alcoholics after community based detoxification and rehabilitation.

Geisner, (2012) conducted a study in Mumbai aimed at understanding the interrelationship among alcoholics and depression. Participants were 869 students. The mean age was 18.19 (SD = .65). Students were asked to classify their own alcohol use ranging from 0 to 5 and alcohol usage was measured using the Daily Drinking Questionnaire. Depressive symptoms were measured using the Beck Depression Inventory. Findings of the study shows that 76% of the sample scored 1–10 (mildly depressed), 18% scored 11–19 (minimally depressed), 4.5% scored 20–28 (moderately depressed) and 1.5% scored over 30 (severely depressed).

Neupane, (2012) conducted a cross-sectional survey among consecutively admitted 188 Alcoholics patients in multiple residential alcohol treatment units. Depressed Alcoholics were compared to non-depressed Alcoholics. The findings show that depressed alcoholic patients had significantly more severe alcohol problems and were less likely to be cohabitating with a partner compared to that of non depressed alcoholic patients.

Chavan, B.S., Arun,P., Bhagvara,R. and Singh,G.P. (2007) conducted a epidemiological survey regarding prevalence of alcohol and drug dependence in rural and slum population of Chandigarh. In this survey 6.88% individuals of the total population surveyed (2992) who fulfilled dependence criteria of ICD-10. The result showed that alcohol was the primary substance of dependence for majority of urban slum substance users and rural areas users. Majority (85.71%) of them reported having health related complications followed by family problems (77.31%) due to drug dependence.

Khalid et.al., (2007) conducted a study to find out the prevalence and co morbidity of depression of alcoholics in Punjab. The sample comprised of 34 (32 males and 2 females) alcohol dependent patients who fulfilled DSM IV criteria admitted in the Psychiatry ward of Teaching Hospital. Severity of dependence on alcohol was assessed with the Severity of Alcohol Dependence Questionnaire and severity of depressive symptoms was rated on Hamilton Rating Scale for Depression. Repeat assessment was done on day 14. The researcher concluded high prevalence of major depression (41.7%) was found in the alcoholics.

Grant FB et. al., (2004) conducted a study regarding Prevalence and Co-occurrence of Substance Use Disorders, alcoholic disorders, Depression and Anxiety Disorders. Household and group quarters residents were participated in this study Face-to-face survey design was used. The prevalence of symptoms that fulfills DSM IV criteria of depression and anxiety disorders in the population were 9.21% and 11.08% respectively. Only a few individuals with depression or anxiety disorders were classified as having only substance-induced disorders. Associations between most substance use disorders and depression and anxiety disorders were positive and significant ($P<0.05$).

Seshadri, (2004) conducted a cross-sectional population survey to assess the risk of depression of subjects with or without heavy drinking occasions among 3124 individuals in Kerala. The samples were selected by stratified random sampling technique. The data was collected through quantity- frequency questionnaire and self-administered Beck Depression Inventory scale. The findings revealed that Ex-drinkers and subjects with heavy drinking occasions had

more often clinically significant depression compared with lifelong abstainers and individuals without heavy drinking occasions. In addition to the drinking habit, the risk for clinically significant depression also increased with age. Men aged 45–64 years with heavy drinking occasions had 2.3 times higher risk for depression compared with young men (aged 25–34 years) without heavy drinking occasions. The respective risk for old women was 2.2 times higher.

Carey and Rao. (2004) conducted a comparative study to assess the major depression in 6050 former drinkers through a representative sampling. The association between prior alcohol dependence and current major depression was tested with linear logistic regression. The findings revealed that prior alcohol dependence increased the risk of current major depressive disorder more than 4-fold.

Pondura, (2004) conducted a longitudinal study to examine changes in alcohol consumption among female alcoholics under treatment. This was predicted by level of depression and dysfunctional attitudes among 120 women who were treated for alcohol addiction at the Karolinska Hospital, Kerala. The data was collected through Alcohol Use Inventory and the Dysfunctional Attitude Scale (DAS). Latent growth curve analysis was used and the findings show that changes in alcohol consumption were predicted by baseline alcohol drinking, as well as by level and changes in depression. Good treatment compliance was related to lower baseline level in depression.

Srikrishnan, Vasudevan and Chandra, (2003) conducted a collaborative study to assess the comparison of induced and independent major depressive disorders in 2,945 alcoholics. The data was collected through semi-structured interview. The findings revealed that major depressive episodes with an onset before the development of alcohol dependence or during a subsequent long abstinence period (i.e., independent depressions) were observed in 15.2% of the alcoholics, while 26.4% reported at least one substance-induced depressive episodes. Major depressive episodes were more likely to be in individuals who married, to have had experience with fewer drugs and less treatment for alcoholism, who have attempted suicide, and, on the basis of personal interviews with family members, who have a close relative with a major mood disorder.

Singh, Sharma, and Angelia, (2001) revealed that, depression and alcoholic abuse are frequently found in same individuals. The study tested several hypothesis related to the relevance of whether the diagnosis of depression was made before admission or after detoxification of randomly selected sample N=82 alcohol dependent inpatients were adapted in the study. Alcohol related socio demographic variables and treatment for depression were assessed. Results show that major depression was found in the majority of patients (67%). Once detoxification from alcohol took place, only the minority of patients (13%) met criteria for major depression.

Schuckit et al., (2000) conducted a study regarding one year incidence rate of major depression and other psychiatric disorders in 239 alcoholic men. The study examines relationship between alcoholism and depression by evaluating the

incidence of new episodes of major depressive disorder among alcohol dependent men during the year following treatment. One year following discharge from an alcohol treatment programme, structured face to face interview was carried out among 239 primary alcoholic men as well as addicted informants. The result indicates approximately 4% of the men developed depressive episodes while drinking heavily. But early 2.1% demonstrated major depression independent of heavy alcohol intake.

Mapici, A. (1999) conducted a study regarding depression and anxiety in alcoholic dependents in Bakirkoy Research and Training Hospital for psychiatric and neurologic disorders at Mumbai. This study focused on the impact of severity of Anxiety and Depression on quality of life of 150 alcoholic dependent patients treated in hospital. Patients were classified into 3 groups. Patients with alcoholic dependent only, patient with depression and patients with anxiety. The level of depression and anxiety decreased from the initial evaluation to after 3 weeks. At week 3 & 6 quality of life was lowest in patients with depression and highest in alcohol only dependent patients with a low severity of depression and anxiety. Accompanying alcohol addiction lead to an increase in severity of the problem associated with the addiction and has a negative effect on quality of life.

2.2 Literature Related to Sudarshan Kriya Yoga

Doria, (2015) conducted a study that SKY alleviates depression and anxiety disorders. The study involved sample of consenting women and men ($n=69$) who received SKY therapy for six-month period. They were assessed at recruitment, after two weeks, after three months and after six months using

Hamilton Rating Scale for Anxiety (HRSA), Hamilton Rating Scale for Depression (HRSD), Zung Self-Rating Anxiety Scale (ZSAS), Zung Self-Rating Depression Scale (ZSDS) and Symptom Checklist-90 (SCL-90). All the analyses have shown that SKY therapy significantly reduces the scores of Anxiety and Depression. Participation in SKY adjunct therapy for ten days intense workshop and follow-ups, coupled with daily individual and independent practice of a simplified protocol of breathing techniques (30 min), can lead to significant reduction in levels of Anxiety and Depression.

Sureka, (2014) conducted a study to assess the effect of SKY on increase feeling of wellness in male prisoners with non psychotic psychiatric disorders. Six month parallel randomized controlled study with sample size of 230 male prisoners was selected in this study. Participants meeting inclusion and exclusion criteria were assigned to a study or control group by simple random allocation using a random number table. Each individual study participant was involved in a daily program of SKY for six weeks. Each individual control participant was instructed to sit in an armchair with his eyes closed and gentle attention to their breath for duration of six weeks. Practicing SKY for six weeks led to improvement in mean \pm SD score of study participants in Global assessment of function (GAF), anxiety (ANX), depressed mood (DEP), positive well being (PWB), general health (GH), self control (SC), vitality (VT) and total positive general well being (PGWB). Change in mean \pm SD score of study participants when compared with control participants was statistically significant in terms of GAF, ANX, DEP, PWB, GH and PGWB.

Moustafa (2012) assessed the changes in blood pressure by doing SKY, among 13 participants in the experimental group and 12 in the control group. The experimental group was trained in Pranayamas and Cyclic Breathing of SKY by an Art of Living (AOL) licensed instructor as a 5-day intensive program, on weekends they were advised to practice at home and maintain a log. Participants were allowed to follow their routine in their life style such as diet, exercise. There was a significant reduction in BP among experimental group. The post intervention systolic blood pressure of participants in the experimental group ($M = 89$, $SD = 5.71$) was lower than that of the participants in the control group ($M = 136.44$, $SD = 11.46$).

Brona (2010). Conducted a study in Agarkar Research of Pune, regarding Sudarshan Kriya Yoga for improving antioxidant status and to reduce anxiety in adults. The study was done among adults in a free living population to evaluate the effect of 2 months of Sudarshana Kriya Yoga (SKY) practice on health and behaviors, involving 37 apparently healthy adult volunteers who were given a 6-day course of training in rhythmic breathing, meditation, yogic postures, followed with 7 weeks of short, 30-minute daily sessions of practice of SKY and then done once weekly for 75-minute sessions of SKY. State and trait anxiety scores and patient's score were used as behavioral outcome measures. The scores were recorded at the beginning and again at the end of the 2-month study period. Practice of SKY for 2 months was accompanied by a significant reduction in anxiety score ($P = 0.039$) and stress score ($P = 0.017$).

Jain (2010) compared the effects of partial and full SKY in treatment of major depressive disorders. Major depressive patients received (N=15 and mean age 34.2) partial SKY treatment and people (N=15 average age 29.5) with major depressive disorders received full treatment for 4 weeks. The result indicates depression and anxiety scores in both groups decreased significantly and decreased equally following treatment. Further, 12 people in the full SKY group and 7 people in the partial SKY obtained a reduction a reduction of 80%+ total Beck depression inventory scores. The study concluded that full Sudarshan Kriya Yoga group has greater reduction in depression than in other group.

Punita, P. (2010), conducted a study regarding effect of 8 Week Sudarshan Kriya Yoga Therapy on Anxiety in Patients with alcohol addiction from JIPMER (Pondicherry) outpatient department, were randomly divided into two groups: yoga group (n=34, who underwent yoga training along with anti anxiety drugs) and control group (n=36, anti anxiety drugs only). Supervised yoga techniques were given for a period of 8 weeks, three times a week for the yoga group. Lifestyle modifications like dietary pattern, physical activity, cessation of smoking and alcohol were advised to both the groups. Goldberg anxiety rating scale was used in all subjects before and after the study period. P value <0.05 was considered significant. There was a significant reduction of Anxiety in yoga group.

Wetterling, T. (2010) conducted a study regarding therapeutic Efficacy of Sudarshan Kriya in Dysthymic Disorders at NIMHANS. Samples were 46 males between 18 and 46 years of age who were hospital outpatients with

Dysthymia. Study participants practiced SKY for 30 minutes every day for 3 months and avoided the use of meditation. Assessment on the effects of SKY treatment was taken initially at 1 and 3 months of time. Assessment tools included interviews, self report scales and utilization of video rating. Study participants cortisol and plasma prolactin levels were also recorded both before and after they complete their first SKY session. Significant elevation in plasma prolactin but not in cortisol level was found after the SKY session. The study concluded that SKY has a therapeutic efficacy in Dysthymic disorders and shown demonstrable biological effects.

Wetterling, Langel and Junghanns, (2009) conducted a study regarding anxiety disorder. The participants were (18-65 years) outpatients with a primary diagnosis of anxiety. Participants had minimum of eight weeks standard treatment with an appropriate dose of a standard prescription anxiolytic. Forty-one patients were enrolled in Sudarshan Kriya Yoga course as an adjunct to standard treatment of Mood and Anxiety Disorders. The Sudarshan Kriya Yoga course was administered over five days (22 hours total). Subjects were encouraged to practice the yoga breathing techniques at home for 20 min per day after the course and were offered group practice sessions for 2 hours once a week led by certified yoga instructors. There was significant reductions in the pre- and post-intervention mean Hamilton anxiety scale ($t=4.59$; $P<0.01$) and psychic subscale ($t=5.00$; $P\leq 0.01$). Study findings revealed there is significant reduction in the anxiety score after intervention.

Maharishi,V. (2007) conducted a study was in Pune, regarding Sudarshan Kriya Yoga for improving antioxidant status and to reduce anxiety in adults. The study was done among adults in a free living population to evaluate the effect of 2 months of Sudarshana Kriya Yoga (SKY) The samples were selected randomly and were given a 6-day course of training in rhythmic breathing, meditation, yogic postures. State and trait anxiety scores is used to measure anxiety in the beginning and again at the end of the 2-month study period. Practice of SKY for 2 months was accompanied by a significant reduction in anxiety score ($P = 0.039$) and stress score ($P = 0.017$).

Janakiramaiah,N.et al., (2000) conducted a study on depression. Randomized, control study was conducted for 45 patients hospitalized with severe depression (as defined by the Beck Depression Inventory and Hamilton Rating Scale for Depression). The patients were divided into three groups with the first receiving electroconvulsive therapy three times weekly for four weeks. The second group was administered imipramine, an antidepressant medication, at typical dosing. The last group was trained in SKY and encourages to practice it daily. Pre/Post test surveys focused on depressive effects. Patients practicing SKY were noted to have a 67 percent remission rate of their symptoms. The results show that once daily practice of Sudarshan Kriya Yoga (SKY) was found to be equally effective to medication and nearly as effective as electro-shock therapy in the remission of depression.

2.3 Literature Related to Effect of Sudarshan Kriya Yoga on Depression Among Alcoholics.

Varghese, S. (2011) conducted a study regarding the effectiveness of Sudarshan Kriya Yoga in depression among 60 alcoholic dependents at selected de-addiction centre in Bangalore. Data collected by using Beck depression inventory. In pretest 50% of the patients in control group and 53% of the patients in experimental group had moderate level of depression, 20% of experimental group and 23.3% control group had severe and mild level of depression, only 2% of control group had no depression. However during post test 53.3% of patients in control group had moderate depression whereas in experimental group had no depression. There is significant ($p < 0.05$) association was found between level of depression among alcohol dependents in experimental group during post test.

Punita, Madanmohan and Swaminathan, (2010) conducted a study regarding Effect of 8 Week Sudarshan Kriya Yoga on depression with patients of addictions to alcohol at JIPMER (Pondicherry). Outpatient department patients who satisfied the study criteria were obtained written informed consent and they were randomly divided into two groups: yoga group ($n=34$, who underwent yoga training along with anti depression drugs) and control group ($n=36$, anti depression drugs only). Supervised yoga techniques were given for a period of 8 weeks, three times a week for the yoga group. Lifestyle modifications like dietary pattern, physical activity, cessation of smoking and alcohol were advised to both the groups. Hamilton depression rating scale was used in all subjects before and after the study period. There was a significant reduction of depression in yoga group.

Gaurav, Chandra, Sanjeev and Rampalliwar. (2009) conducted a study regarding effect of Sudarshan Kriya Yoga on Volunteers Having depression along with drinking habit at AIIMS, New Delhi. Total 54 people of urban area [age group 18 to 50 yrs] included in the study. One group pre and post test design was adopted for this day. Beck depression inventory was administered before and after SKY. The mean depression rating before SKY 13.9 ± 8.83 which was reduced to 13.4 ± 5 ($t = 2.94, P < 0.01$), while mean anxiety after SKY reduced from 9.1 ± 7.5 to 8.8 ± 4.42 ($t = 4.74, P < 0.01$).

Vedamurthachar, (2006) conducted a study regarding antidepressant efficacy and hormonal effects of Sudarshan Kriya Yoga in alcohol dependent individuals in NIMHANS, Bangalore. Research reports indicates Sudarshan Kriya Yoga has demonstrable antidepressant effects. In this study, following one week of detoxification 60 peoples were randomized to receive Sudarshan Kriya Yoga and not in control group. Sudarshan Kriya Yoga was administered under supervision of trained therapist. Participants were asked to complete the Beck Depression Inventory before and after 2 weeks of interventions ACTH and morning plasma cortisol and prolactin were measured both before and after 2 weeks period. Results show that in both groups reduction in Beck Depression Inventory scores occurred. However this was significantly more in the case of Sudarshan Kriya Yoga group.

Hegde and Shetty (2005) conducted a study regarding biological effects of Sudarshan Kriya Yoga in alcoholics at NIMHANS, Bangalore. Sudarshan Kriya Yoga was tested for its effect in inpatients of alcoholic dependents who completed

acute detoxification (n=60). Experimental group were equally randomized to receive Sudarshan Kriya Yoga not in control group for 2 weeks following the acute detoxification management. They completed the Beck Depression Inventory before and after the 4 weeks of intervention. Results showed that significant reductions in Beck Depression Inventory scores, being more so in Sudrashan Kriya Yoga group and cortisol decreased after 4 weeks being more in Sudrashan Kriya Yoga group. Reduction in Beck Depression Inventory scores correlated with cortisol in Sudrashan Kriya Yoga group but not in control group.

Sharma et al., (2003) conducted a study on Sudarshan Kriya for depression and anxiety in New Delhi, among 106 alcoholics associated with depression and anxiety. One group pre test and post test design was adapted for this study. SKY was administered for 60 consecutive days. Hamilton Anxiety Rating Scale and depression using Beck Depression Inventory scale were used to assess anxiety and depression respectively. Finding correlated with post test level of anxiety and depression. The post test level of depression and anxiety score was ($r=0.23$, $P<0.01$). This showed that there is reduction in depression and anxiety after Sudarsha Kriya Yoga.

METHODOLOGY

This chapter deals with the description of research approach, design, setting, population, criteria for sample selection, sampling technique, variables of the study, tools for data collection, pilot study, procedure for data collection and technique for data analysis.

3.1 Research Approach

The present study was aimed to determine the effect of Sudarshan Kriya Yoga on depression among alcoholics, where the researcher manipulates the independent variable and measures the change in the dependent variable. Hence, in view of the nature of the problem and to accomplish the objectives, quantitative research approach was adopted for this study.

3.2 Research Design

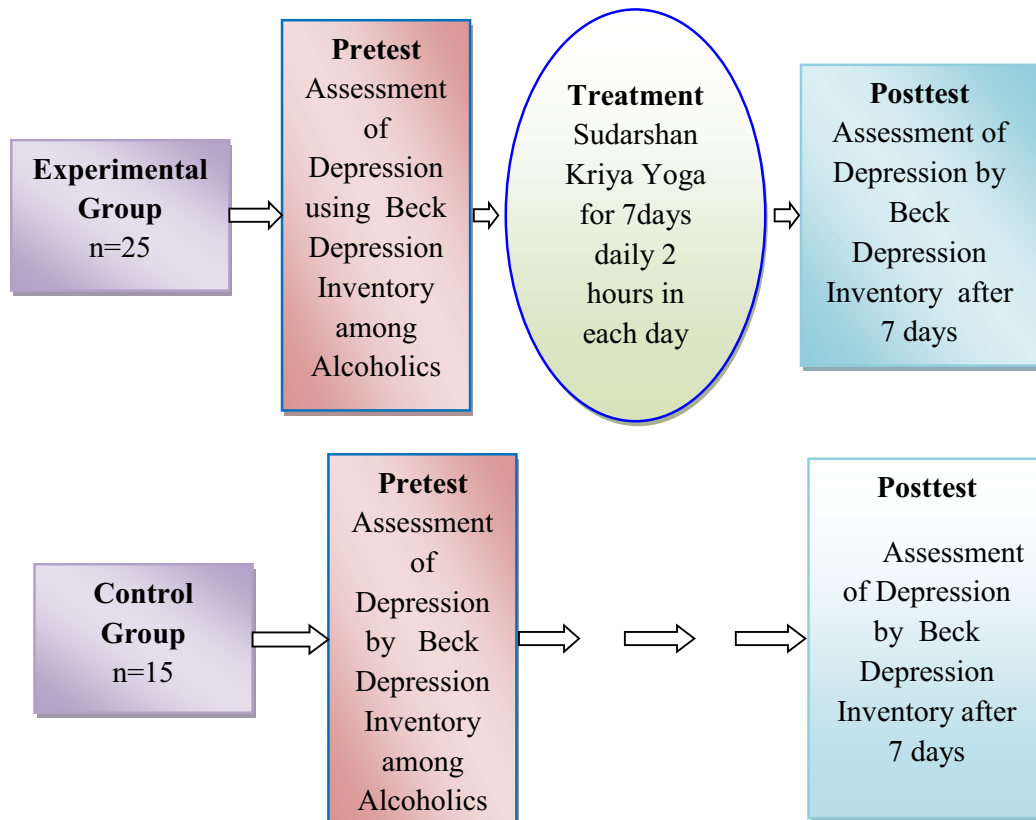
The research design used for the present study was quasi experimental non equivalent control group design. In this design experimental and control group are selected without randomization (Sharma, 2011). In the present study, 25 numbers of participants were allotted in experimental group and 15 participants taken in control groups. Intervention was given only for the experimental group and control group was kept under the routine care rendered in treatment centre. Hence this design was found to be appropriate to evaluate the Effect of Sudarshan Kriya Yoga on depression among alcoholics at selected de-addiction centre, Coimbatore.

3.3 Setting

The study was conducted at Karunai Maruvalu Maiyam located at Kaundampalayam, Coimbatore. It was started by Christian Missionaries International (CMI) association in the year of 2014. It is a 30 bedded Hospital. After admission each patient stays for 21 days in the centre for getting treatment. Drug therapies, individual and group counselling, rehabilitation, and recreational activities and are rendered routinely as a therapeutic intervention in this centre for the clients who are admitted for de addiction.

Figure 3.1

Diagrammatic Representation of Research Design



3.4 Population

The target population for the present study were Alcoholics. The accessible populations were Alcoholics, at Karunai maruvalvu maiyam, Coimbatore.

3.5 Sampling

The sample was recruited by using purposive sampling techniques and 40 subjects those who were hospitalized for de addiction were included in this study. First three weeks all the participants were selected for experimental group (25 participants). Last two weeks all the participants were selected for control group (15 participants).

3.6 Sample size

With the pilot study standard deviation the sample size calculation done

$$N = (Z_{\alpha})^2 (sd)^2 / d^2$$

$$Z_{\alpha} = \text{Level of significance}$$

$$SD^2 = \text{Standard deviation of the pilot study}$$

$$d^2 = \text{Accuracy of estimate}$$

$$= 1.96 \times 1.96 \times 10.04 \times 10.04 / 4 \times 4$$

$$= 25$$

For the allowable error 10%

$$N = n / 1 - q \text{ Where } q = 10\%$$

$$N = 25 / 1 - 0.1$$

$$N = 27.7$$

3.7 Criteria for Sample Selection

3.7.1 Inclusion criteria

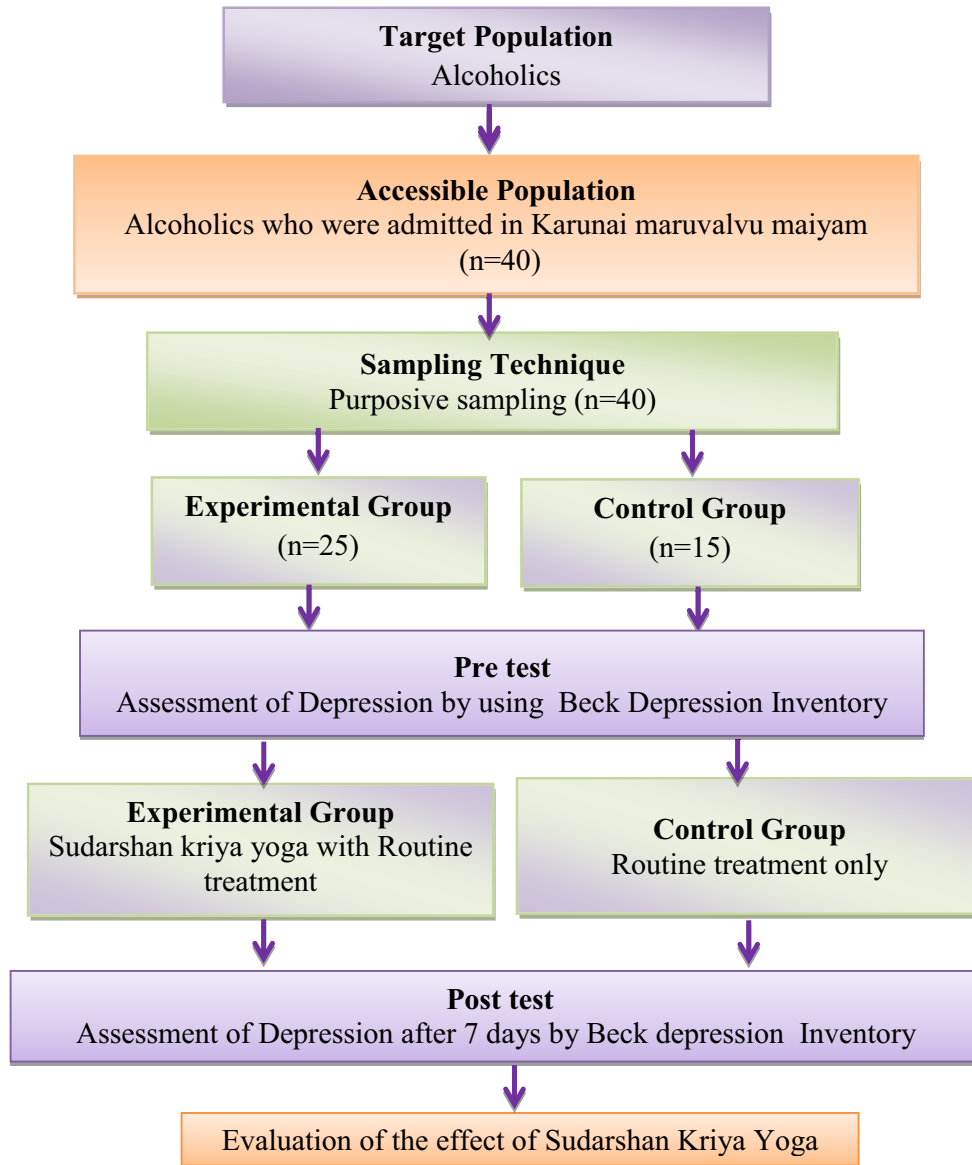
1. Clients who are able to read either English or Tamil
2. Clients who are willing to participate in the study

3.7.2 Exclusion criteria

1. Clients who have associated features of psychotic and neurotic symptoms.
2. Clients who are diagnosed with liver failure and cardiac problem
3. Clients those who are experiencing difficulty in practicing Sudarshan Kriya Yoga.

Figure 3.2

Diagrammatic Representation of Research Process

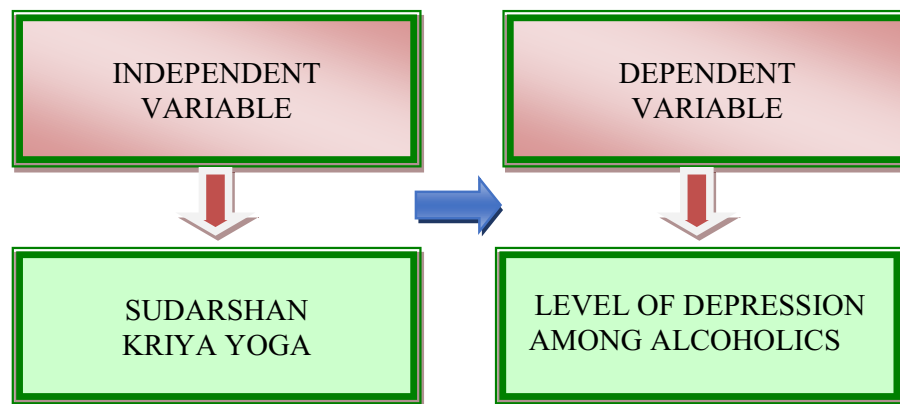


3.8. Variables of the Study

The independent variable of the study was Sudarshan Kriya Yoga and dependent variable was level of Depression among alcoholics.

Figure 3.3

Schematic Representation of Variables



3.9 Tools for Data Collection

The following tools were used for data collection

3.9.1 Demographic profile

3.9.2 Beck depression inventory (Aron T Beck 1967)

3.9.1 Demographic profile:

Demographic data consists of personal information about the demographic details and the habit of alcohol consumption.

3.9.2 The Beck Depression Inventory (BDI)

Description of the tool: Beck Depression Inventory (Aron T Beck, 1967)

Beck depression inventory is a self administered instrument developed by Aaron T Beck in 1967 and revised in 1996. The BDI is a self- report analysis of depressive symptoms but is not designed to be used for the actual diagnosis of depression (Sundberg, 1987). The wording of the BDI-II is clear and concise. The

questionnaire contains 21 items, most of which assess depressive symptoms on a Likert scale of 0-3. It is a four point likert scale and there is no negative scoring. The two exceptions to this are questions 16 and 18. Question 16 addresses changes in sleeping pattern, while question 18 addresses changes in appetite. The scale in these two items consists of 0, 1a, 1b, 2a, 2b, 3a, & 3c. Both options 1 carries 1 score, 2 carries score 2, 3 carries score 3. It is a self administered questionnaire. Paper and pencil is given to the respondents and asked to read the questions carefully and mark how they are feeling at that time. Each questions have four scoring (ie) 0,1,2,3,4. Maximum score is 4 and minimum score is 0. 0 indicates no depression. 4 indicates severe depression. The total score is 63.

1-14 - Mild depression

15-30 – Moderate depression

31-63 - Severe depression

Validity and Reliability

The BDI test is widely known and has been tested for content, concurrent, and construct validity. High concurrent validity ratings are given between the BDI and other depression instruments as the Minnesota Multiphasic Personality Inventory and the Hamilton Depression Scale; 0.77 correlation rating was calculated when compared with inventory and psychiatric ratings. The BDI has also showed high construct validity with the medical symptoms it measures. Beck's study reported a coefficient alpha rating of .92 for outpatients and .93 for college student samples. The BDI-II positively correlated with the Hamilton Depression Rating Scale, $r = 0.71$, had a one-week test-retest reliability of $r = 0.93$ and an internal consistency $\alpha = .91$.

3.10 Sudarshan Kriya Yoga

Sudarshan Kriya Yoga is a modern breathing technique rooted in the ancient yogic tradition shows promising results as an adjunct therapy for depression, panic attack disorder and general anxiety. The therapeutic effect is believed to be based mainly on the rebalancing of the sympathetic nervous system and parasympathetic nervous system where a positive effect on the stress mechanisms, anxiety is and mood related ailments.

3.10.1 Pre preparation

- Assemble all the study participants in a common room
- Instruct them to sit down
- Body, neck, and back should be on a straight line.
- Eyes should be closed

3.10.2 Step : 1 Ujjayi pranayama(10 minutes)

It involves long and deep breathing.

- Ask them to inhale slowly through both noses, at the same time tongue should be folded backward.
- Ask them to Exhale out also very slowly. [4 to 6 breaths(both inhale and exhale) per minute]
- The sound is created by a slight contraction of the laryngeal muscles and partial closure of the glottis. This creates airway resistance and enables control of the rate of air flow such that the breath cycle can be prolonged.
- Instruct them to repeat this for 10 times. This is called one cycle.
- Ask them to take a deep and long breath after each cycle.

Step : 2 Bhastrika pranayama (10 minutes)

It involves forced inhalation and exhalation. Ask them to

- Gently close the mouth.
- Inhale and exhale out fast through both noses. (20 to 30 breaths per minute.)
- Repeat this for 10 times. This is called as one
- Take a deep and long breath after each cycle.
- Do this for 3 times.

Step : 3 Cyclical breathing (15 minutes)

It involves long and deep breathing. Ask them to

- Inhale and slowly through the both noses. This is called slow cycle. (8 to 14 breaths per minute)
- Repeat this for 5 times. This is called one cycle.
- After this cycle take a deep and long breath.
- Inhale and exhale through both noses. This is called medium cycle. (40 to 50 breaths per minute.)
- Repeat this for 5 times. This is called one cycle.
- Take a deep and long breath after this cycle.
- Inhale and exhale fast through both noses. This is called fast cycle. (60 to 100 breaths per minute.)
- Repeat this for 5 times. This is called one cycle.
- Take a deep and long breath after this cycle.

Step : 4 Relaxation or nidra yoga (10 minutes)

Instruct them to

- Lie down on the back.
- Keep the legs relaxed, about one and half feet apart.
- Close their eyes.
- Keep the hands relaxed with palms facing up.
- Relax all the ten parts of the body one by one as given below. Feet, legs, knees, thighs, hips, stomach, chest, hands, neck, head.
- Think of their feet and start relaxing. While relaxing give this suggestions
feets are relaxed. Blood circulation is good; heat circulation is good; air
circulation is good. You are getting sufficient strength in your feet. Let them take
rest. The feet are relaxing. Relax, Relax, Relax.
- Next relax the legs
- Relax the knees
- Relax the thighs.
- Relax the hips
- Relax the stomach
- Relax the chest
- Relax the shoulder and arms
- Relax the neck
- Finally relax the head and face.
- Then, think of each part from the head down to the feet, making sure all
parts are relaxed.

- The whole body is relaxed.
- Lie in the position for 10 minutes.
- While getting up, first gently move the fingers, hands, legs and body.
- Then slowly roll over to the left side and slowly get up.

3.11 Ethical committee clearance

Research problem and objectives were approved by research committee. Due permission from institutional authorities was sought and obtained. Explanation regarding the purpose of the study and nature of the questionnaire involved in the study was given and consent was taken. Assurance was given to the study subjects of their anonymity and confidentiality of the data collected from them. Ensured the study participants that no physical and psychological harm was caused.

3.12 Pilot Study

The pilot study was conducted to check the feasibility, practicability, of the tool. The study was conducted at Karunai Maruvalvu Maiyam, Coimbatore for Alcohol dependent patients from 8.06.2015 to 14.06.2015. The research design used was quasi experimental non equivalent control group design. The sampling technique adopted to recruit the sample was Purposive sampling and 9 Alcoholics who fulfilled the criteria were recruited for pilot study. The Beck Depression Inventory was administered to assess the level of Depression and Sudarshan Kriya Yoga was demonstrated by the “Art of living therapist” and the researcher assisted in the therapeutic procedure. The therapy was given for a duration of 2 hours/ day for consecutive 7 days. On the seventh day, Depression was reassessed by administering same tool. The data collected from the study participants was

tabulated and analyzed using appropriate statistical methods and results showed that the mean score of Alcoholics with Depression before and after Sudarshan Kriya Yoga was 28.4 and 12.24, with the standard deviation of 10.04 and 13.62 respectively. The calculated 't' value (6.25) was more than the table value. This revealed that the level of depression was reduced after administration of Sudarshan Kriya Yoga. Hence, the study was found to be feasible and practical.

3.13 Changes after the pilot study

In addition to the drug therapy, individual therapy, group therapy, counselling, recreational activities were rendered for all the members who are admitted in the study centre. So in order to find the effect of Sudarshan Kriya Yoga, the researcher decided to have a control group in the main study.

Some of the alcoholics who felt difficulty in performing Sudarshan Kriya Yoga hence the researcher decided to exclude them from the study.

3.14 Procedure for Data Collection

The main study was initiated after the pilot study. The validated tool was used for data collection and the main study was conducted at Karunai Maruvalvu Maiyam, Coimbatore. The research design used was one group pretest post test control group design. During the period of data collection, 40 subjects were drawn purposively and 25 subjects allocated into experimental and 15 into control group. The researcher developed rapport with the clients admitted in de-addiction centre, explained about the benefits of the intervention and consent was obtained. Pretest was done to assess the Depression level by using Beck Depression Inventory on both experimental and control group. Experimental group received Sudarshan Kriya Yoga which was demonstrated by the yoga therapist from art of living and

performed as a group session and the researcher assisted in the therapeutic procedure. The yoga was given for a duration of 2 hours for 7 days, where as the Control group received only the routine care rendered by the de-addiction centre. Post test was done using the same questionnaire on the 7th day to evaluate the level of Depression among alcoholics in both experimental and control group.

3.15 Techniques of Data Analysis and Interpretation

The frequency tables were formulated for all significant information. Descriptive and inferential statistical method was used for data analysis. Descriptive statistics was applied for the analysis of Demographic variables. Inferential statistical methods were used to identify the effect of Sudarshan Kriya Yoga.

3.15.1 Student 't' test

Student 't' test was used to analyse the effect of Sudarshan Kriya Yoga on Depression between experimental and control group.

$$t = \frac{\overline{X}_1 - \overline{X}_2}{SE}$$

Where,

$$SE = SD \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

$$SD = \sqrt{\frac{\sum (x_1 - \overline{x}_1)^2 + \sum (x_2 - \overline{x}_2)^2}{n_1 + n_2 - 2}}$$

$$\overline{X}_1 = \text{Mean depression scores of the experimental group}$$

$$\overline{X}_2 = \text{Mean depression scores of the control group}$$

$$SE = \text{Standard Error}$$

$$SD = \text{Combined standard deviation}$$

$$n_1 = \text{Number of samples in experimental group}$$

$$n_2 = \text{Number of samples in control group}$$

3.15.2 Paired 't' test

Paired 't' test was used to analyse the difference between pre and post test level of Depression in both groups.

$$t = \frac{\bar{d}}{SE}$$

where,

$$SE = \frac{SD}{\sqrt{n}}$$

$$SD = \sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{n}}{n-1}}$$

\bar{d} = Mean of difference between test score

SE = Standard Error

SD = Standard deviation of the test score

n = Number of samples

3.15.3 Chi-Square test (with yates correction)

Chi-Square (with yates correction) test was used to check the association between the pretest level of Depression and selected variables.

$$\chi^2 = \sum \frac{((O - E) - 0.5)^2}{E}$$

O = Observed value

E = Expected value in corresponding category

0.5 = Yates correction value

DATA ANALYSIS AND INTERPRETATION

This Chapter deals with the analysis and results of the data collected from 40 study participants. The Aim of the study was to determine the effect of Sudarshan Kriya Yoga on Depression among Alcoholics. A total number of 40 Alcoholics were selected for the study. Among 40 samples, 25 were allocated in experimental and 15 in control group respectively. Purposive sampling method was adopted to recruit the study participants. The level of Depression among Alcoholics was assessed before and after the intervention.

Descriptive and inferential statistics were employed to analyze the data. Frequency and percentage distribution were used to present the demographic characteristics and the level of depression was analyzed through mean, standard deviation and mean difference. Paired 't' test was used to analyze the difference between pre and post test depression level in both groups respectively. Student 't' test was used to analyze the effect of Sudarshan Kriya Yoga on depression among experimental and control group. Chi square test was used to analyze the association between pretest Depression level and selected variables.

ORGANIZATION OF THE FINDINGS

The data obtained from the Alcoholics are organized, analyzed and presented under the following sections.

Section I

Demographic Variables of Alcoholics.

Section II

Assessment on the level of Depression among experimental and control group before Sudarshan Kriya Yoga.

Section III

Assessment on the Depression scores among experimental and control group after Sudarshan Kriya Yoga.

Section IV

Effect of Sudarshan Kriya Yoga on Depression among Alcoholics.

Section V

Association between the pretest level of Depression and selected variables among Alcoholics.

Section I

Demographic Variables of Alcoholics

The demographic variables included in the study are Age, Educational status, Occupational status, Religion, Monthly income, Area of residence, Marital status, Number of children, Number of times admitted in the hospital, Duration of alcohol intake, Age at first alcohol taken, Occasion of drinking, Mode of introduction, Type of drink, Intake of alcohol with companionship were analyzed using descriptive statistics in terms of frequency and percentage.

Analyzed data were presented in the form of tables and diagrams.

Table 4.1
Alcoholics Based on Age

(n=40)

S.No	Age in years	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	21-30	4	16	3	20
2	31-40	13	52	8	53.3
3	41-50	6	24	3	20
4	51-60	2	8	1	6.7

The above table 4.1 depicts that in the experimental group, mostly alcoholics belong to the age group of 31-40 years in both experimental, 13 (52%) and control group, 8 (53.3%). (Figure 4.1)

Table 4.2
Educational Status of Alcoholics

(n=40)

S.No	Educational status	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	No formal education	1	4	0	0
2	Primary education	6	24	1	6.7
3	Secondary education	5	20	4	26.7
4	Higher secondary education	9	36	7	46.6
5	Graduate	4	16	3	20

The above table 4.2 depicts the educational status of alcoholics which reveals that, most of them had higher secondary education in both experimental 9 (36%) and control group 7 (46.6%). (Figure 4.2).

Figure 4.1

Alcoholics Based on Age

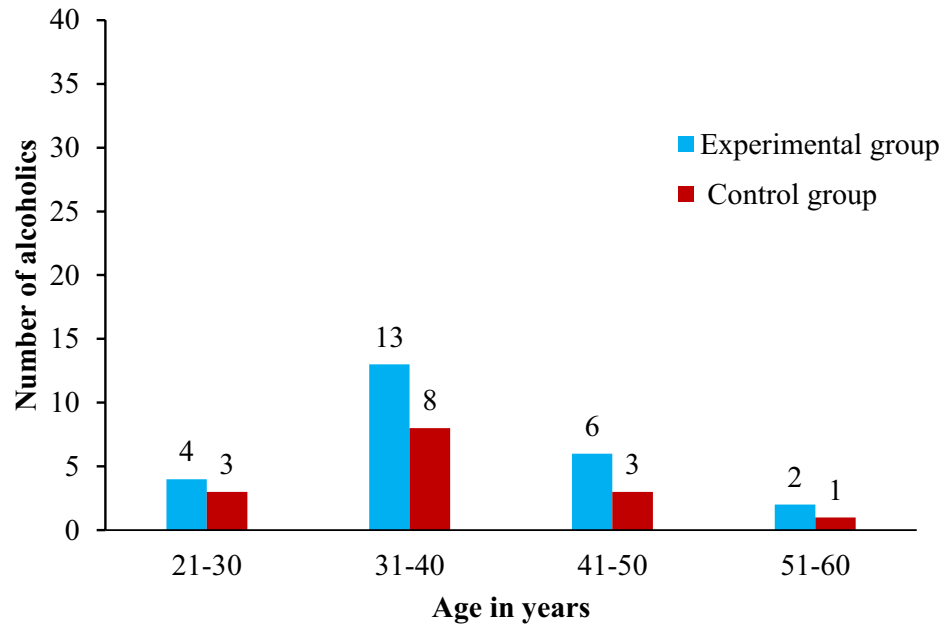


Figure 4.2

Alcoholics based on education

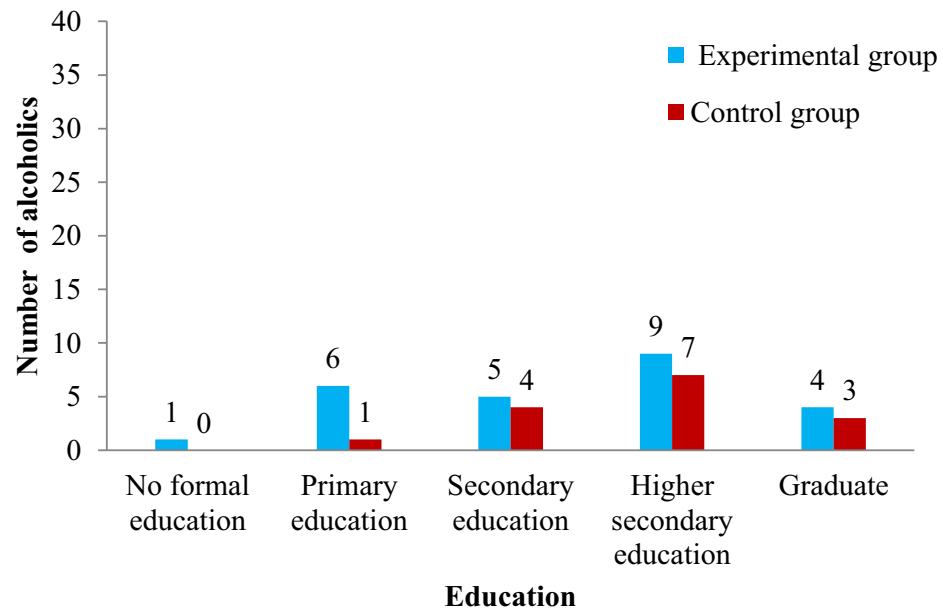


Table 4.3
Alcoholics based on Occupation

(n=40)

S.No	Occupation	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Self employed	6	24	6	40
2	Private employee	16	64	7	46.66
3	Government employee	3	12	1	6.66
4	Unemployed	0	0	1	6.66

The above table 4.3 shows that in both the experimental 16 (64%) and control group, 7 (46.66%) alcoholics were working in private sector. (Figure 4.3)

Table 4.4
Alcoholics based on Monthly Income

(n=40)

S.No	Monthly Income in Rs	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Below ₹10,000	1	4	0	0
2	10,001- 15,000	9	36	6	40
3	15,001-20,000	8	32	5	33.33
4	20,001-25000	4	16	4	26.67
5	Above 25001	3	12	0	0

The above table 4.4 explains the data on monthly income which reveals that, most of them earning between ₹10,001 and 15,000 in experimental group 9(36%) and in control group 6 (40%) (Figure 4.4).

Figure 4.3
Alcoholics based on Occupation

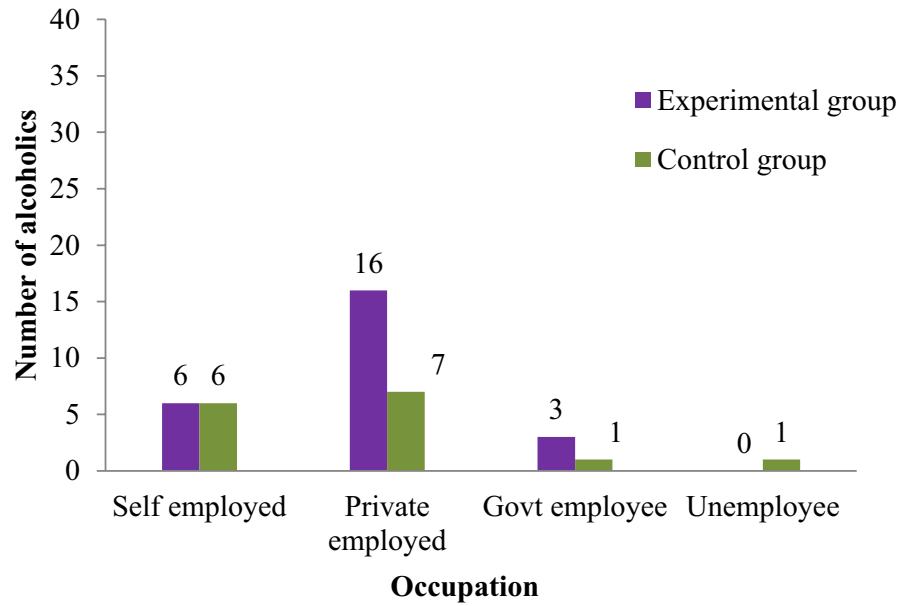


Figure 4.4
Alcoholics based on Monthly Income

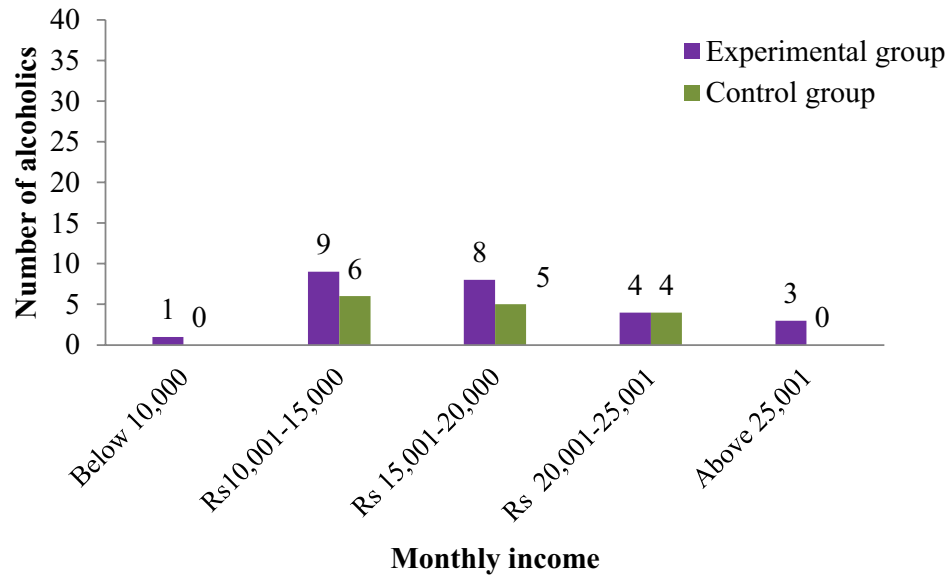


Table 4.5
Alcoholics Based on Religion

S.No	Religion	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Hindu	21	84	12	80
2	Christian	4	16	3	20

The above table 4.5 explains the data on religion which reveals that, majority were belong to Hindu religion in both experimental, 21 (84%) and control group, 12 (80%). (Figure 4.5)

Table 4.6
Alcoholics Based on Residence

S.No	Residence	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Rural	9	36	4	26.7
2	Urban	16	64	11	73.3

The above table 4.6 explains the data on residence which reveals that, majority were Residing in Urban area in both experimental, 16 (64%) and control group, 11 (73.3%). (Figure 4.6)

Figure 4.5
Alcoholics Based on Religion

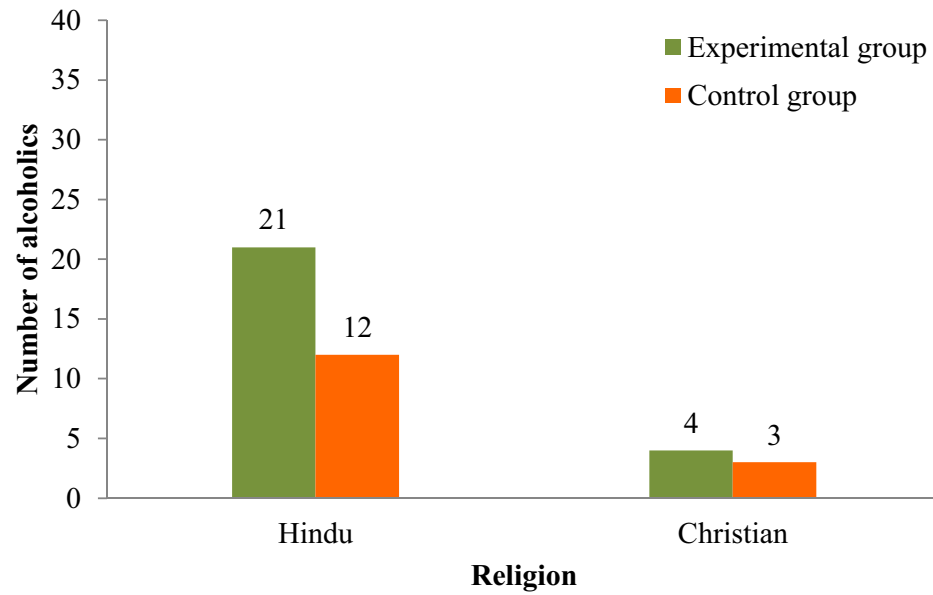


Figure 4.6
Alcoholics Based on Residence

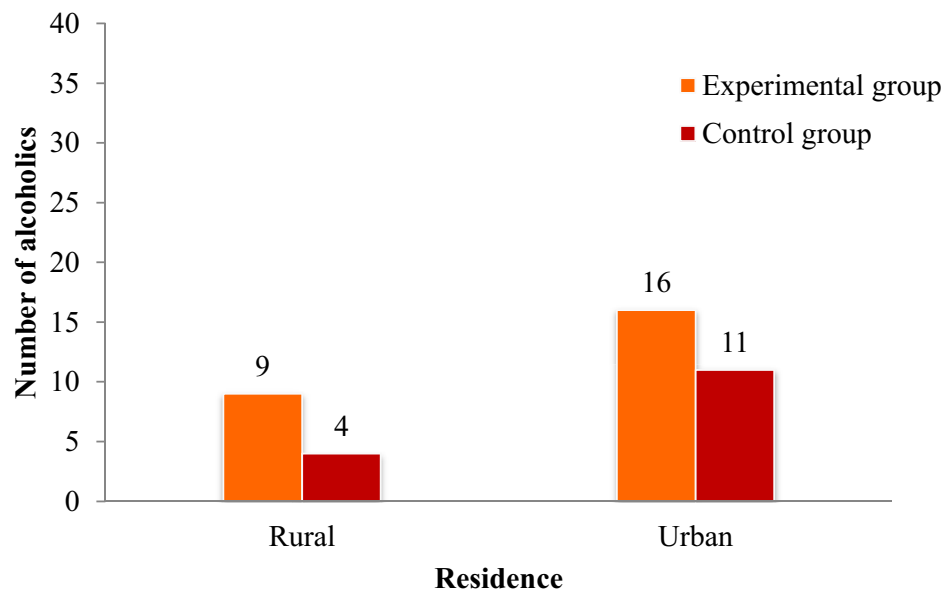


Table 4.7
Alcoholics Based on Marital status

(n=40)

S.No	Marital status	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Married	22	88	13	86.7
2	Unmarried	2	8	2	13.3
3	Divorced	1	4	0	0

The above table 4.7 shows the data on marital status which reveals that, majority of alcoholics were married in both experimental 22 (88%) and control group 13 (86.7%). (Figure 4.7)

Table 4.8
Alcoholics Based on Number of Children

(n=36)

S.No	Number of Children	Experimental group (n=23)		Control group (n=13)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	No Children	1	4.33	2	15.38
2	One	9	39.17	3	23.09
3	Two	12	52.17	6	46.15
4	More than two	1	4.33	2	15.38

The above table 4.8 shows the data on number of children which reveals that, most of the alcoholics are having two children in both experimental 12 (52.17%) and control group 6 (46.15%). (Figure 4.8)

Figure 4.7

Alcoholics Based on Marital status

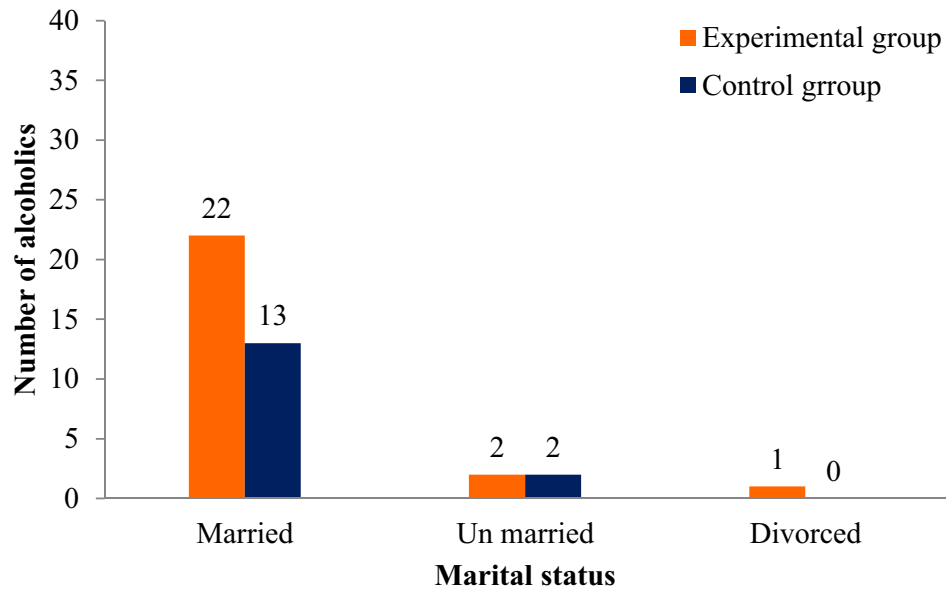


Figure 4.8

Alcoholics Based on Number of Children

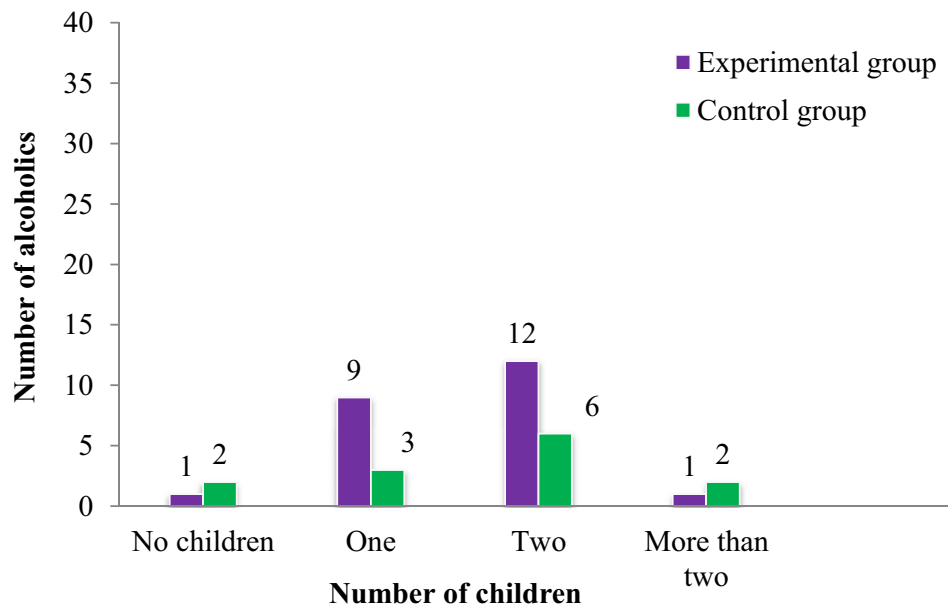


Table 4.9
Alcoholics Based on Number of hospitalization
due to alcoholism

(n=40)

S.No	Number of hospitalization	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	1 time	8	32	6	40
2	2 time	16	64	9	60
3	3 time	1	4	0	0

The above table 4.9 shows the data on Number of hospitalization due to alcoholism which reveals that, majority of alcoholics admitted in hospital for two times in both experimental 16 (64%) and control group 9 (60%). (Figure 4.9).

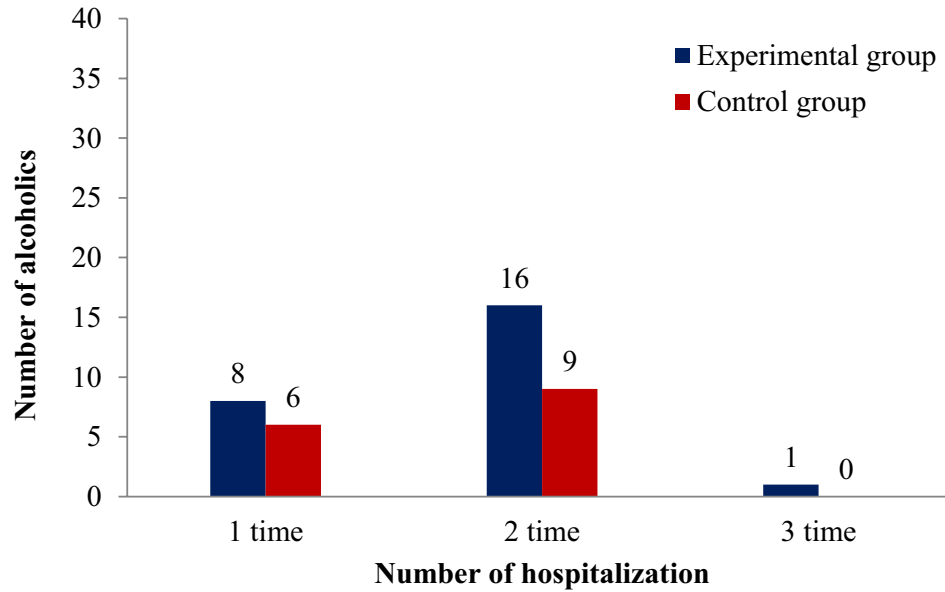
Table 4.10
Alcoholics Based on Duration of alcoholism

(n=40)

S.No	Duration of alcoholism	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Less than 5 years	7	28	3	20
2	More than 5 years	10	40	7	46.7
3	More than 10 years	8	32	5	33.33

The above table 4.10 shows the data on duration of alcoholism which reveals that, most of the alcoholics consume alcohol for more than 5-10 years in both experimental 10 (40%) and control group 7 (46.7%). (Figure 4.10).

Figure 4.9
Alcoholics Based on Number of hospitalization
due to alcoholism



7

Figure 4.10
Alcoholics Based on Duration of alcoholism

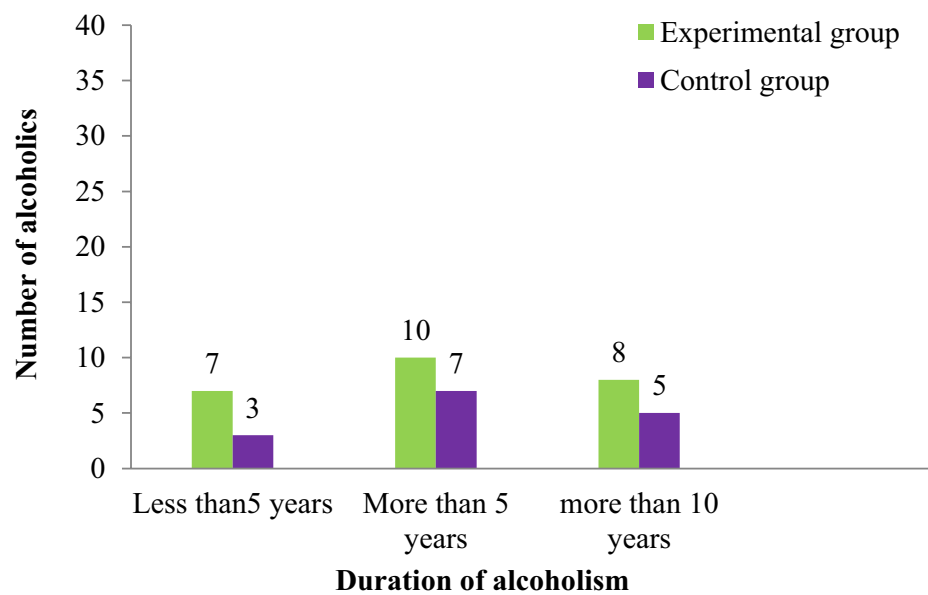


Table 4.11
Alcoholics Based on Age at first consumption of alcohol

(n=40)

S.No	Age at first consumed alcohol(years)	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	15-25	12	48	8	53.4
2	26-35	10	40	5	33.3
3	36-45	3	12	2	13.3

The above table 4.11 shows the data on Age at first consumption of alcohol which reveals that, most of the alcoholics consumed alcohol between 15-25 years in both experimental 12 (48%) and control group 8 (53.4%). (Figure 4.11).

Table 4.12
Alcoholics Based on Occasion of drinking

(n=40)

S.No	Occasion of drinking	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Through out the day	11	44	7	46.6
2	Only at the night time	11	44	7	46.6
3	Sad/happy mood	3	12	1	6.8

The above table 4.12 shows the data on the occasion of drinking which reveals that, most of the alcoholics consume alcohol throughout the day and night time in both experimental 11 (44%) and control group 7 (46.6%) respectively. (Figure 4.12)

Figure 4.11

Alcoholics Based on Age at first consumption of alcohol

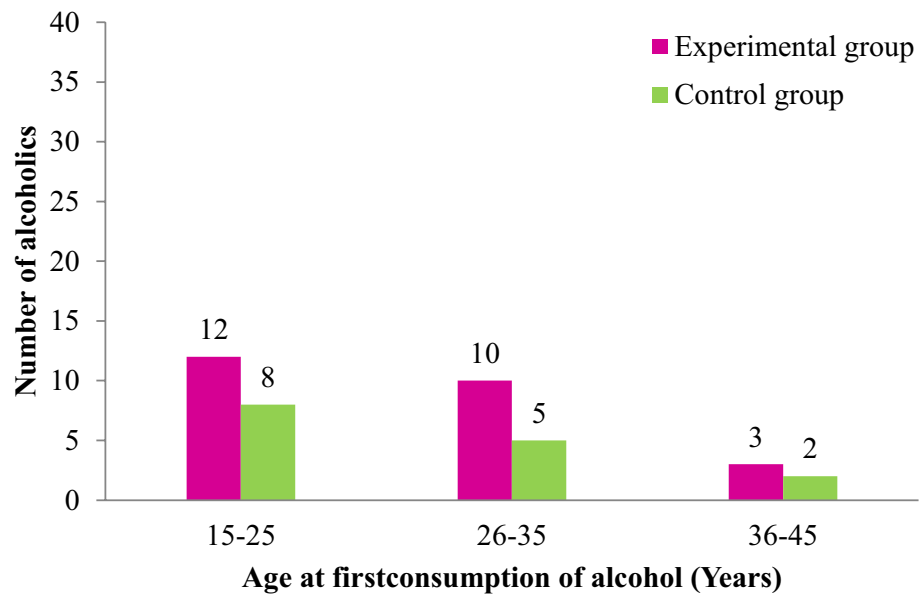


Figure 4.12

Alcoholics Based on Occasion of drinking

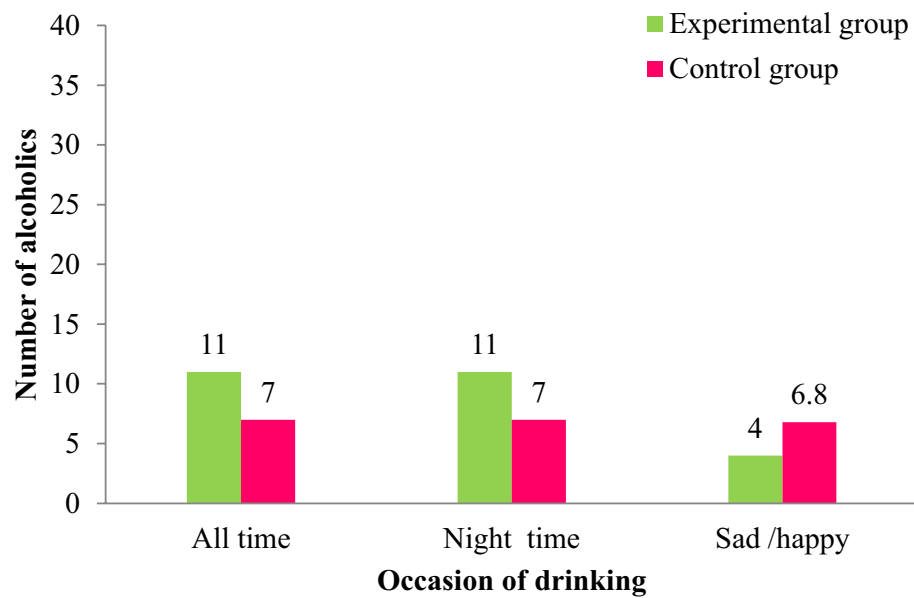


Table 4.13
Alcoholics Based on Mode of introduction of alcohol

S. No	Mode of introduction of alcohol	(n=40)			
		Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Friends	19	76	13	86.7
2	Relatives	6	24	2	13.3

The above table 4.13 explains the data on mode of introduction of alcohol which reveals that, majority were introduced to alcohol by their friends in both experimental, 19 (76%) and control group, 13 (86.6%) respectively. (Figure 4.13)

Table 4.14
Alcoholics Based on type of drink

S.No	Type of drink	(n=40)			
		Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Rum	3	12	3	20
2	Beer	7	28	4	26.6
3	Brandy	9	36	4	26.6
4	Whisky	6	24	4	26.6

The above table 4.14 shows the data on Type of drink which reveals that, most of the alcoholics consume Brandy in experimental group 9 (36%) and in control group 4 (26.6%) consume Beer, Brandy, Whisky respectively. (Figure 4.14).

Figure 4.13

Alcoholics Based on Mode of introduction of alcohol

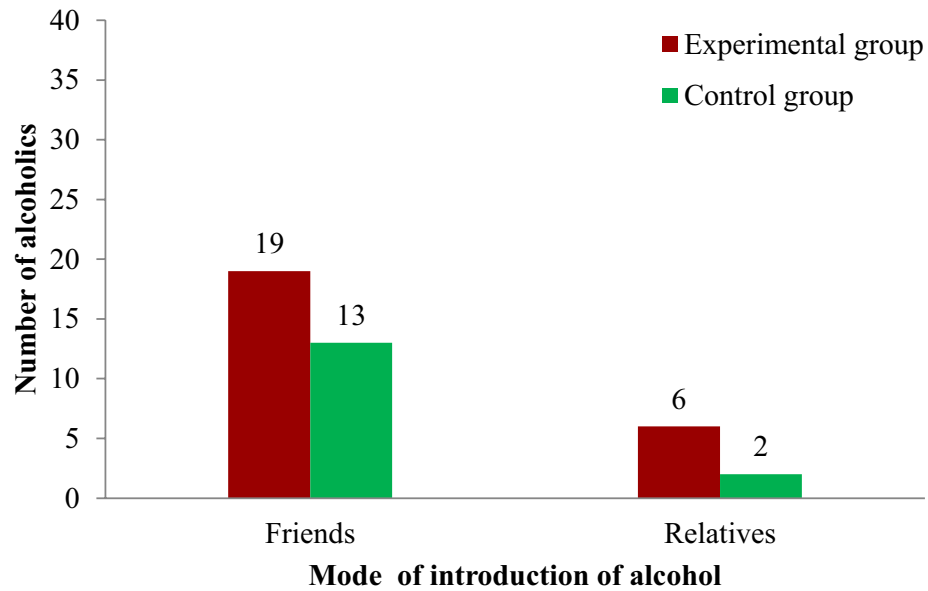


Figure 4.14

Alcoholics Based on type of drink

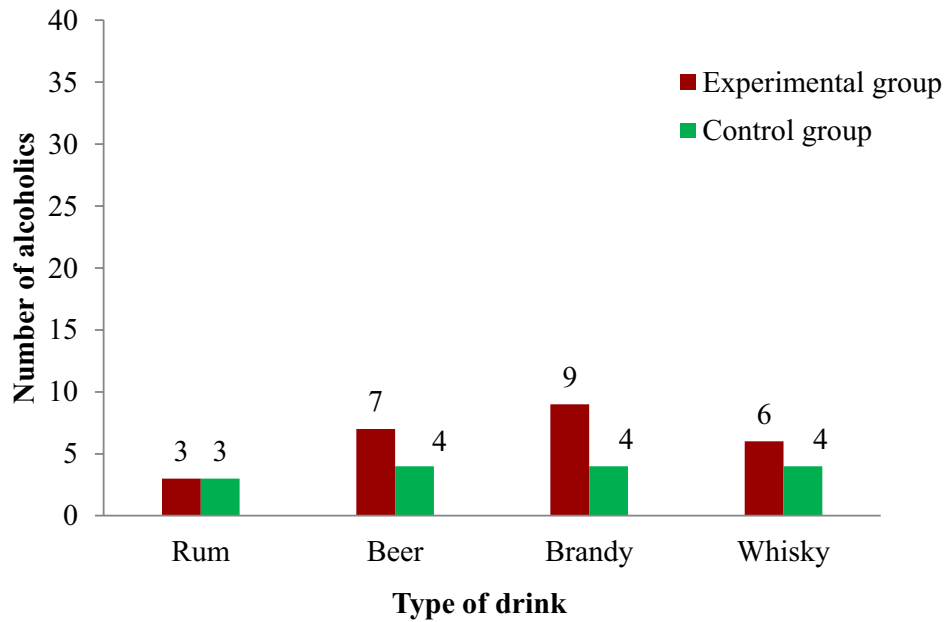


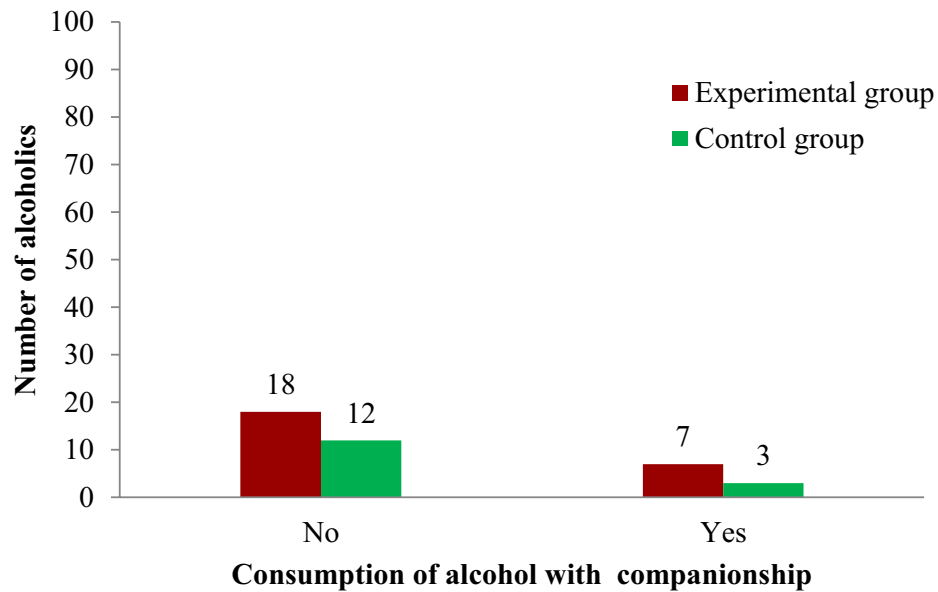
Table 4.15
Consumption of alcohol with companionship

(n=40)

S.No	Drinking with companionship	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	No	18	72	12	73.3
2	Yes	7	28	3	26.7

The above table 4.15 shows the data on consumption of alcohol with companionship which reveals that, majority of alcoholics consume alcohol with out companionship in experimental (72%) and control group (73.3%) respectively (Figure 4.15)

Figure 4.15
Consumption of alcohol with companionship



Section II

4.16 Assessment on the level of Depression among experimental and control group before and after Sudarshan Kriya Yoga

This section deals the level of Depression among Alcoholics before and after Sudarshan Kriya Yoga. The level of Depression was categorized as mild, moderate and severe. Collected data were organized, analyzed and presented using descriptive statistics.

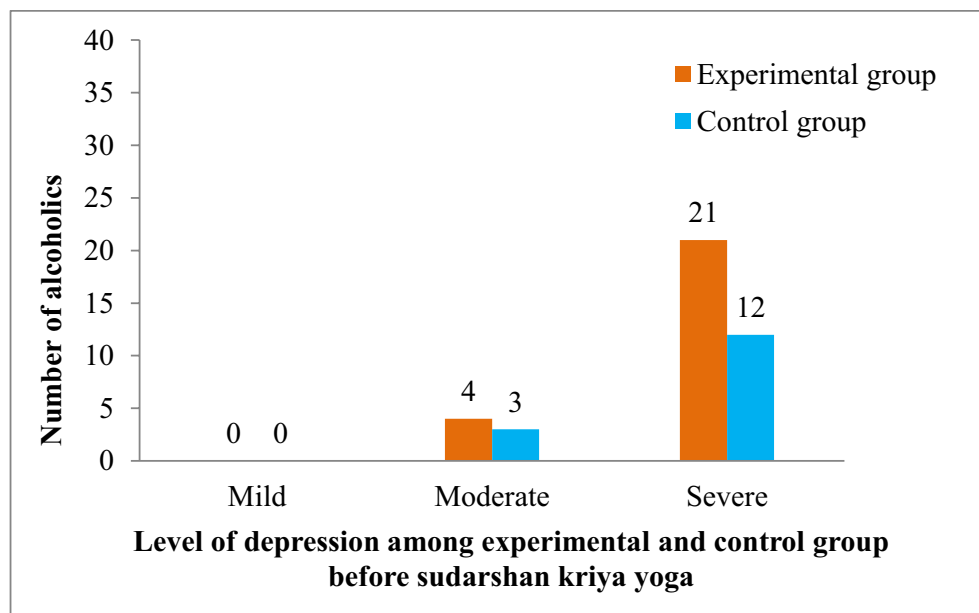
Above section described under the following headings.

Table 4.16
Level of Depression Among Experimental And Control Group Before
Sudarshan Kriya Yoga

S.No	Level of Depression	Experimental group (n= 25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	Mild	0	0	0	0
2.	Moderate	4	16	3	20
3.	Severe	21	84	12	80

The above table 4.16 shows the distribution of alcoholics based on the level of Depression before Sudarshan Kriya Yoga in experimental and control group. It was found that majority of Alcoholics had severe level of Depression in both experimental (84%) (Figure 4.16) and control (80%) group respectively.

Figure 4.16
Level of Depression Among Experimental And Control Group Before
Sudarshan Kriya Yoga



4.17 Assessment on the of Depression scores among experimental and control group after Sudarshan Kriya Yoga

This section deals with the level of Depression among Alcoholics after 7 sessions of Sudarshan Kriya Yoga.

Table 4.17
Depression scores among experimental and control group before
Sudarshan Kriya Yoga

(n=40)

S.No	Depression Scores	Experimental group (n=25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	1-7	-	-	-	-
2.	8-14	-	-	-	-
3	15-22	-	-	-	-
4	23-30	4	16	3	20
5	31-47	20	80	12	80
6	48-63	1	4	-	-

The above table 4.17 depicts the depression scores obtained by the alcoholics before Sudarshan Kriya Yoga in both experimental and control group. The result shows that in experimental group, 20 members were scored between 1-47, 4 members had depression score between 23 and 30, 1 member scored between 48 and 63. In control group, 12 members were scored between 31 and 47, 3 members scored between 23 and 30.

SECTION III

Table 4.18

**Level of Depression among Experimental and Control Group
After Sudarshan Kriya Yoga**

(n=40)

S.No	Level of Depression	Experimental group (n= 25)		Control group (n=15)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	Mild	13	52	0	0
2.	Moderate	12	48	14	93.3
3.	Severe	0	0	1	6.67

The above table shows the distribution of Alcoholics based on the level of Depression after Sudarshan Kriya Yoga. It was found that 13 (52%) Alcoholics had mild level of depression and 12 (48%) had moderate level of Depression in experimental group (Figure 4.16). Among the control group 14 (93.3%) Alcoholics had moderate level of depression and 1 (6.67%) had severe level of depression

Table 4.17
Level of Depression among Experimental and Control Group
After Sudarshan Kriya Yoga

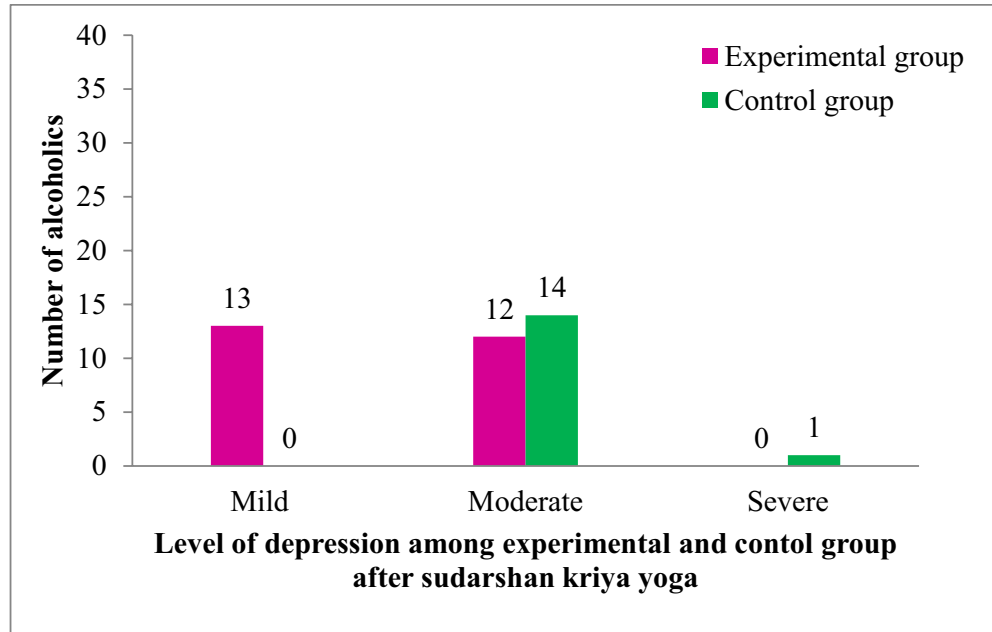


Table 4.19
Depression scores among experimental and control group after
Sudarshan Kriya Yoga

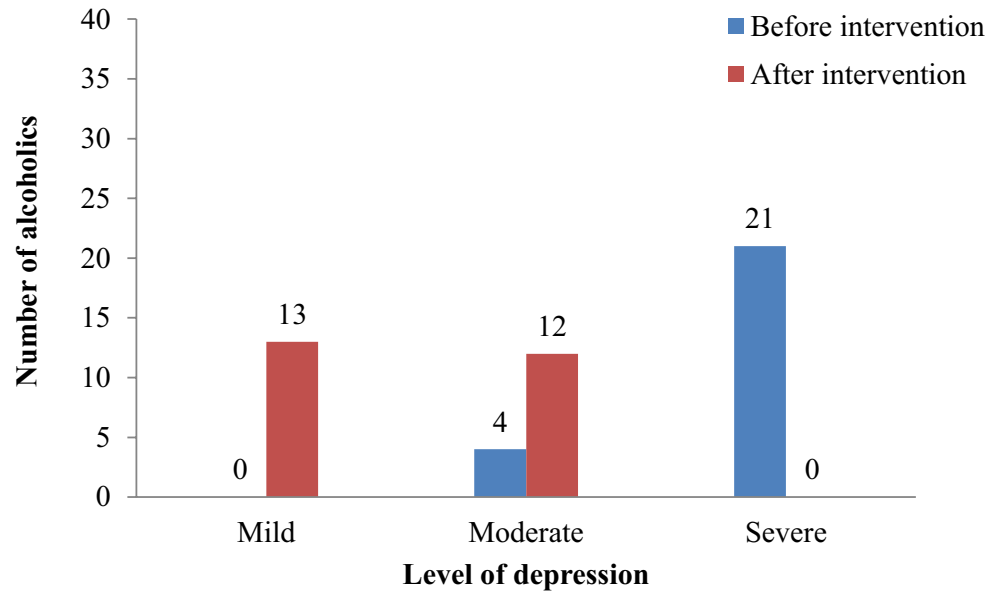
S.No	Depression Scores	(n=60)			
		Experimental group (n=30)		Control group (n=30)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1.	1-7	-	-	-	-
2.	8-14	13	52	-	-
3.	15-22	11	44	2	13.3
4.	23-30	1	4	12	80
5.	31-47	-	-	1	6.66
6.	48-63	-	-	-	-

Above table shows that, among experimental group there were 13 (52%) alcoholics with the Depression scored between 8 and 14, 11(44%) alcoholics were scored between 15 and 22, 1(4%) alcoholic scored between 22 and 30.

Among control group, 12(80%) alcoholics were between the score of 23 and 30, 2 (13.3%) members were scored between 15 and 22, 1(6.66%) alcoholic was scored between 31 and 47.

Figure 4.18

**Level of Depression Before And After Sudarshan Kriya Yoga in
Experimental group**



Section IV

4.20 Effect of Sudarshan Kriya Yoga on Depression among Alcoholics

This section deals with the analysis and interpretation of the effect of Sudarshan Kriya Yoga among Alcoholics. Analyzed data were presented on the following headings.

1. Comparison of Level of Depression among experimental and control group before and after Sudarshan Kriya Yoga.
2. Comparison of Depression scores among experimental and control group before and after Sudarshan Kriya Yoga.
3. Level of Depression among experimental and control group before Sudarshan Kriya Yoga.
4. Level of Depression among Alcoholics in control group.
5. Level of depression among alcoholics in experimental group.
6. Effect of Sudarshan Kriya Yoga on Depression among Alcoholics.

Table 4.20.1
Comparison of Level of Depression among experimental and control group
before and after Sudarshan Kriya Yoga

(n=40)

S.No	Level of Depression (scores)	Experimental group (n=25)				Control group (n=15)			
		Pretest		Post test		Pretest		Post test	
		Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
1	Mild (1-14)	0	0	13	52	0	0	0	0
2	Moderate (15-30)	4	16	12	48	3	20	14	93.3
3	Severe (31-63)	21	84	0	0	12	80	1	6.66

Table 4.20.1 depicts that before intervention it was found that, 4 (16%) Alcoholics from experimental group had moderate level of depression and 21 (84%) had Severe level of depression, whereas after intervention, it was identified that 13 (52%) had mild level of depression and 12 (48%) had moderate level of depression.

In control group, pretest score showed that 3 (20%) Alcoholics had moderate level of depression, 12 (80%) had severe level of depression and posttest score showed that, 14 (93.3%) had moderate level of depression, 1 (6.66%) had severe level of depression.

Table 4.20.2

**Comparison of Depression scores among experimental and control group
before and after Sudarshan Kriya Yoga**

(n=40)

S. No.	Depression scores	Experimental group (n=25)				Control group (n=15)			
		Pre test		Post test		Pretest		Post test	
		Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
1.	1-7	-	-	-	-	-	-	-	-
2.	8-14	-	-	13	52	-	-	-	-
3.	15-22	-	-	11	44	-	-	2	13.3
4.	23-30	4	16	1	4	3	20	12	80
5.	31-47	20	80	-	-	12	80	1	6.66
6.	48-63	1	4	-	-	-	-	-	-

The above table 4.20.2 depicts that before intervention there was no one scored below 22 in both the groups, whereas after intervention 24 participants in the experimental group scored below 22 and 2 participants in control group had scored below 22.

Table 4.20.3
Assessment of Depression among Experimental and Control group Before
Sudarshan Kriya Yoga

(n=40)

Group	Mean	SD	Mean difference	't' value
Experimental Group	34.84	5.37	1.49	0.81
Control Group	36.33	4.08		

Un paired 't' test was used to compare the level of Depression before Sudarshan Kriya Yoga among both the groups. It was identified that the mean scores of depression among alcoholics in experimental and control group was 34.84 and 36.33 respectively with a mean difference of 1.49. Likewise the standard deviation of the experimental and control group was 5.37 and 4.08 respectively. The calculated 't' value was 0.81 which was lesser than the table value. There is no homogeneity in the level of depression among experimental and control group of Alcoholics before Sudarshan Kriya Yoga.

Table 4.20.4**Assessment of Depression among Alcoholics in experimental group****(n=25)**

Level of Depression	Mean	SD	Mean difference	't' value
Before intervention	34.84	5.37	20.00	18.05***
After intervention	14.84	3.85		

***Significant at 0.001 level

Paired 't' test was used to assess the level of Depression among Alcoholics before and after the intervention. Among experimental group of alcoholism It was identified that, the mean score before and after Sudarshan Kriya Yoga among experimental group was 34.84 and 14.84 respectively with a mean difference of 20.00. Standard deviation was 5.37, 3.85 and the calculated 't' value was 18.05. While comparing with table value, it showed that the calculated 't' value was greater than the table value at 0.001 level of significance. Thus the research hypothesis, 'There will be a significant difference in the level of Depression among Alcoholics in experimental group before and after implementation of Sudarshan Kriya Yoga. Hence it was accepted. This shows Sudarshan Kriya Yoga is effective in reducing depression among alcoholics.

Table 4.20.5
Assessment of Depression among Alcoholics in control group

(n=25)				
Level of Depression	Mean	SD	Mean difference	't' value
Pre test	36.3	4.08	9.77	1.65
Post test	26.53	3.85		

Paired 't' test was used to assess the level of Depression among Alcoholics in control group. It was identified that, the mean score of Depression before and after was 36.3 and 26.53 respectively. The mean score was reduced after intervention. The mean difference was 9.77. Standard deviation were 4.08 and 3.85 respectively and the calculated 't' value was 1.65 which was lesser than the table value. Hence significant difference was not found in the level of Depression among Alcoholics in control group.

Table 4.20.6
Effect of Sudarshan Kriya Yoga on Depression among Alcoholics

(n=40)

Group	Mean	SD	Mean difference	't' value
Experimental Group	14.84	3.201	11.69	10.43***
Control Group	26.53	3.85		

***Significant at 0.001 level

Un paired 't' test was used to compare the post test level of Depression among experimental and control group. It was identified that the mean level of Depression among Alcoholics in experimental and control group was 14.84 and 26.53 respectively with a mean difference of 11.69. Likewise the standard deviation of the experimental and control group was 3.201 and 3.85 respectively. The calculated 't' value was 10.43 which was greater than the table value at significance at 0.001 level. Hence the research hypothesis 'There will be a significant difference in the level of Depression among Alcoholics in experimental and control group after implementation of Sudarshan Kriya Yoga' was accepted. Hence Sudarshan Kriya Yoga is effective in reducing depression among alcoholics

Section V

4.21 Association between the Pretest Level of Depression and Selected variables among Alcoholics

Chi square test (with Yates correction) was used to find the association between level of Depression and selected variables like Age, Educational status, Occupational status, Religion, Monthly income, Area of residence, Marital status, Number of children, Number of times admission in the hospital, Duration of intake of alcoholism, Age at first taken alcohol, Occasion of drinking, Mode of introduction, Type of drink and Intake of alcohol with companionship were analyzed.

Table 4.24
Association between the Pretest level of Depression and Selected Variables among Alcoholics

S.No	Demographic variables	Category	Frequency	Level of Depression			χ^2 value (Yates correction)	Degree of freedom (r-1) (c-1)	χ^2 Table value
				Mild	Moderate	Severe			
1.	Age	21-30 years	7	-	2	5	3.17	6	12.59
		31-40 years	21	-	4	17			
		41-50 years	9	-	1	8			
		51-60 years	3	-	0	3			
2.	Educational status	No formal education	1	-	-	1	4.394	8	15.51
		Primary education	7	-	1	6			
		Secondary education	9	-	1	8			
		Higher secondary education	16	-	3	13			
		Graduate	7	-	2	5			
3.	Occupation	Self employed	12	-	3	9	3.839	6	12.59
		Private employed	23	-	3	20			
		Govt employee	4	-	1	3			
		Un employee	1	-	0	1			

S.No	Demographic variables	Category	Frequency	Level of Depression			χ^2 value (Yates correction)	Degree of freedom (r-1) (c-1)	χ^2 Table value
				Mild	Moderate	Severe			
4	Monthly Income	≤10,000Rs Rs10,001- 15,000 Rs15,001-20,000 RS 20,001-25,000 Above 25,001	1	-	4	1	5.909	8	15.51
			15	-	2	11			
			13	-	1	11			
			8	-		7			
			3			3			
5.	Religion	Hindu Christian	33	-	6	27	0.471	2	5.99
			7	-	1	6			
6	Residence	Rural Urban	13	-	2	11	0.059	2	5.99
			27	-	5	22			
7	Marital status	Married Unmarried Divorced	35	-	6	29	3.03	4	9.49
			4	-	1	3			
			1	-	0	1			
8	Number of children	No children One Two More than two	3	-	1	2	4.305	6	12.59
			12	-	4	8			
			18	-	1	17			
			3	-	0	3			
9	Number of admission in hospital	1 time 2 time 3 time	14	-	3	11	2.995	4	9.49
			25	-	4	21			
			1	-		1			

S.No	Demographic variables	Category	Frequency	Level of Depression			χ^2 value (Yates correction)	Degree of freedom (r-1) (c-1)	χ^2 Table value
				Mild	Moderate	Severe			
10	Duration of alcoholism	Less than 5 years More than 5 years More than 10 years	10	-	-	10	3.876	4	9.49
			17	-	4	13			
			13	-	3	10			
11	Age at first taken alcohol	15-25 26-35 36-45	20	-	5	15	3.025	4	9.49
			15	-	2	13			
			5	-	-	5			
12	Occasion of drink	All time Night time Sad/ Happy	18	-	4	14	02.362	4	9.49
			8	-	3	15			
			4	-	-	4			
13	Mode of introduction	Friends Relatives	32	-	6	26	0.603	2	5.99
			8	-	1	7			
14	Type of drink	Rum Beer Whisky Brandy	6	-	1	5	3.155	6	12.59
			11	-	2	9			
			13	-	2	11			
			10	-	2	8			
15	Drinking with companionship	Yes No	29	-	6	23	1.177	2	5.99
			11	-	1	10			

Significance at 0.01* level

Table 4.24 shows the association between pretest level of Depression and selected demographic variables among Alcoholics. Stated variables were Age, Educational status, Occupational status, Religion, Monthly income, Area of residence, Marital status, No of children, No of times admission in the hospital, Duration of intake of alcoholism, Age at first taken alcohol, Occasion of drinking, Mode of introduction, Type of drink and Intake of alcohol without companionship were analyzed.

It was found that there is no significant association with the level of Depression and selected variables among Alcoholics at 0.01* level of significance.

RESULTS AND DISCUSSION

This chapter deals with the interpretation of the results and discussion of the findings. The main aim of the study was to assess the effect of Sudarshan Kriya Yoga on depression among alcoholics. Quasi experimental Non equivalent control group design was adopted in this study. In the present study, 25 alcoholics were recruited in experimental group and 15 were in control group by using purposive sampling technique. Sudarshan Kriya Yoga was administered to the samples for a period of 7 days in a week in experimental group. The depression of alcoholics were assessed before and after intervention by using beck depression inventory. The data were analyzed and the findings are discussed based on the objectives of the study.

5.1 Demographic profile

In the present study, out of 25 clients in experimental group, most of them 13 (52%) alcoholics belongs to the age group of 31-40 years, 6 (24%) belongs to 41-50 years of age, 4 (16%) belongs to 20-30 years of age and 2 (8%) belongs to 51-60 years of age. In control group most of them 8 (53.33%) alcoholics belong to age group of 31-40 years, 3 (20%) belongs to 41-50 years of age and 21-30 years of age (6.7%) 1% belongs to 51-60 years of age. Hence more alcoholics are found in the 31-40 years. This is consistent with the study by Sreevani (2012) in that mean age of participants were 33.3 years.

Educational status of participants in Experimental group reveals that 9 (36%) had higher secondary education, 6 (24%) had primary education, 5 (20%) had secondary education, 4(16%) were graduate, 1 (4%) had no formal education. In control group 7 (46.6%) had higher secondary education, 4 (26.7%) had secondary education, 3 (20%) were graduate and 1 (6.7%) had primary education.

Regarding Occupational status, in experimental group majority 16 (64%) alcoholics were working under private sector, 6 (24%) were self employed and 3 (12 %) were working under government sector and in control group most of them 7 (46.66%) were working under private sector, 6 (40%) were self employed and 1 (6.66%) were unemployed. From the above findings, majority of the participants were private employees. This is consistent with the study by Sreevani (2012) in that 40% were private employees.

Monthly income in experimental group reveals that 9 (36%) Alcoholics had monthly income ranged from ₹10,001-15,000, 8 (32%) had income ranged from ₹15,001-20,000, 4 (16%) had monthly income ranged from ₹20,001-25,000, 3 had income above ₹25,001 1 (4%) below ₹10,000 . In the control group, 6 (40%) had monthly income ranged from ₹10,001-15,000, 5 (33.33%) had monthly income ranged from ₹15,001-20,000, 4 (26.67%) had monthly income ₹20,001-25,000.

The data on religion which reveals that, in experimental group majority were belongs to Hindu religion 21 (84%) and 4 (16 %) were Christians and in control group 12 (80%) were Hindu, and 3 (20%) were Christian. From the above findings, majority of the participants were belongs to hindu religion. This is consistent with the study by Sreevani (2012) in that 91% were belongs to hindu religion.

The data on residence which reveals that, in experimental group majority 16 (64%) belongs to urban area, 9 (36%) Alcoholics belongs to rural area, and in control group 11 (73.33%) belongs to urban area, and 4 (26.7%) belongs to rural

area. From the above findings, majority of the participants resides in urban area. This is consistent with the study by Sreevani (2012) in that 53% resides in urban area.

Marital status explain that in experimental group, majority 22 (88%) were married, 2 (8%) were unmarried, 1 (4%) were divorced, and in control group majority 13 (86.7%) were married, 2 (13.3%) were unmarried. From the above findings, majority of the participants are married. This is consistent with the study by Sreevani (2012) in that 55% of the participants were married.

The data on number of children explain that in experimental group 12 (52.17%), Alcoholics have two children, 9 (39.17%) have one children, 1 (4.33%) have no children. (4.33%) have more than two children and in control group 6 (46.15%) Alcoholics have two children, 3 (23.09%) have one children, 2 (15.38%) have no children and 2(15.38 %) have more than two children

The data based on number of times hospitalization due to alcoholism explain that in experimental group majority of Alcoholics have 2 times hospitalization 16 (64%), 8 (32%) have one time hospitalization 1 (4%) have three time hospitalization. In control group majority of Alcoholics 9 (60%) have two time hospitalization and 6 (40%) have one time hospitalization.

The duration of alcohol intake reveals that, in experimental group 10 members (40%) consume alcohol for more than 5 years, 8 members (32%) consume alcohol for more than 10 years, 7 members (28%) consume alcohol for less than 5 years. and in control group 7 (46.7%) consume alcohol for more than 5 years, 5 members (33.33%) consume alcohol for more than 10 years and 3 members (20%) consume alcohol for less than 5 years.

Regarding age at first taken alcohol describes that, in experimental group 12 (48%) started to consume alcohol in 15-25 years of age, 10 (40%) started to consume alcohol in 26-35 years of age, 3 (12%) started to consume alcohol in 36-45 years of age. And in control group 8 (53.4%) started to consume alcohol in 15-25 years of age, 5 (33.33%) started to consume alcohol in 26-35 years of age, 2 (13.3%) started to consume alcohol in 36-45 years of age. From the above findings, majority of the participants between 15-25 years. This is consistent with the study by kuria (2013) in that majority were started to consume alcohol before 18 years of age.

The distribution of occasion of drinking reveals that, in experimental group 11 members (44%) consume alcohol throughout the day, 11 members (44%) consume alcohol only at night time, 3 members (12%) consume alcohol in sad/happy mood and in control group 7 (46.6%) consume alcohol throughout the day, 7 members (46.6%) consume alcohol only at night time, 1 members (6.8%) consume alcohol in sad/happy mood.

The distribution of mode of introduction of alcohol reveals that, in experimental group 19 members (76%) introduced to alcohol by their friends, 6 members (24%) introduced to alcohol by their relatives in control group 13 members (86.7%) introduced to alcohol by their friends, 2 and members (13.3%) introduced to alcohol by their relatives.

The intake of type of drink among alcoholics reveals that, in experimental group 9 members (36%) consume brandy, 7 members (28%) consume beer, 6 members (24%) consume whisky, 3 members (12 %) consume rum, in control

group 4 members (26.6%) consume brandy, 4 members (26.6%) consume beer, 4 members (26.6%) consume whisky, and 3 members (20%) consumed rum.

Data on intake of alcohol with companionship reveals that, in experimental group 18 members (72%) consumed alcohol without companionship, 12 members (28%) consumed alcohol with companionship, in control group 12 members (73.3%) consumed alcohol without companionship, and 3 members (26.7%) consumed alcohol with companionship.

5.2 Objective 1: Assess the level of Depression among Alcoholics

Analysis of depression level among 40 Alcoholics shows, in experimental group 4 (16%) had moderate level of depression and 21 (84%) had severe level of depression. In control group, 3 (20%) had moderate level of depression, 12 (80%) had severe level of depression.

5.3 Objective 2 : To evaluate the level of Depression after implementing Sudarshan Kriya Yoga among Alcoholics

After assessing the level of depression among Alcoholics, Sudarshan Kriya Yoga was administered by the researcher for duration of 2 hours in a day for 7 days.

5.3.1 Level of Depression among experimental and control group before and after intervention

Before intervention, (16%) Alcoholics from experimental group had moderate level of depression, and 21 (84%) had severe level of depression .whereas after intervention, 13 (52%) had mild level of depression and 12 (48%) had moderate level of depression.

In control group, pretest score showed that 3 (20%) Alcoholics had moderate level of depression, 12 (80%) had severe level of depression and posttest score showed that, 14 (93.3%) had moderate level of depression, 1 (6.66%) had severe level of depression.

5.3.2 Analysis on the level of depression among Alcoholics in experimental group

Depression was assessed by Beck depression inventory before and after Sudarshan Kriya Yoga. After implementation of Sudarshan Kriya Yoga mean score of depression was reduced from 34.84 to 14.84 with the standard deviation of 5.37 and 3.85 respectively. The calculated 't' value 18.05 was significant at 0.001 level. Thus the research hypothesis, 'There will be a significant difference in the level of depression among alcoholics in experimental group before and after implementation of Sudarshan Kriya Yoga' was accepted. The result shows that there exists a significant effect of Sudarshan Kriya Yoga on depression among Alcoholics. Varghese, (2011) conducted a study regarding the effectiveness of Sudrashan Kriya Yoga in depression among 60 alcoholic dependents. Data collected by using Beck depression inventory. There is significant ($p < 0.05$) association was found between level of depression among alcohol dependents in experimental group during post test

5.3.3 Analysis on level of Depression among Alcoholics in control group

Paired 't' test was used to assess the level of depression among Alcoholics before and after Sudarshan Kriya Yoga in control group. It was identified that, the mean score of depression was 36.3 and 26.53 with the standard deviation of 4.08 and 3.27 respectively. The calculated 't' value 1.65 was lesser than the table value. Hence no significant difference was not found in the level of depression among Alcoholics in control group.

5.3.4 Effect of Sudarshan Kriya on Depression among experimental and control group after intervention

Student 't' test was used to find the difference in the level of depression scores among experimental and control group after intervention. It was identified that the mean level of depression among experimental group was 14.84 and control group was 26.53 respectively with a mean difference of 11.67. Likewise the standard deviation of the experimental and control group was 3.201 and 3.85 respectively. The calculated 't' value was 10.43 which was greater than the table value. Hence the research hypothesis 'There will be a significant difference in the level of depression among Alcoholics in experimental and control group after implementation of Sudarshan Kriya Yoga' was Accepted.

Actual Depression score was calculated and tabulated for experimental and control group which shows that, there was a reduction in Depression scores in both groups after Sudarshan Kriya Yoga.

5.4 Association between the level of Depression and selected variables

The association between the level of depression and selected variables among Alcoholics were calculated using Chi square for variables like age, educational status, occupation, Area of residence, marital status, duration of alcohol intake, Number of children, number of times admission in hospitalization due to alcoholism, age at first taken alcohol, occasion of drinking, mode of introduction, type of drink, intake of alcohol without companionship had no association with the level of depression among Alcoholics. It was found that there was no significant association between the level of Depression and selected variables.

SUMMARY AND CONCLUSION

This chapter deals with the findings, recommendation and implications in the field of nursing education, practice, administration and nursing research. The study was conducted to assess the effect of Sudarshan Kriya Yoga on Depression among Alcoholics at selected de-addiction centre, Coimbatore.

Quasi experimental non equivalent control group design was used for the study. The study was conducted in Karunai Maruvalu Maiyam, Kaundam Palayam, Coimbatore. Becks depression Inventory developed by Aron Beck (1967) was used to assess the level of depression among Alcoholics. In this study, 25 samples were included in experimental group and 15 samples were in control group. Sudarshan Kriya Yoga was administered for the samples in experimental group by the researcher where as control group received only routine care rendered in study centre. Post-test was done using the same questionnaire on the 7th day (after the last session). Descriptive and inferential statistics were employed to analyse the data.

6.1 Major Findings of the Study

- 6.1.1 In the experimental group, 13 (52%) Alcoholics belong to the age group between 31-40 years and in control group, 8 (53.33%) Alcoholics belong to the age group between 31-40 years.
- 6.1.2 Educational status of Alcoholics, reveals that, most of them completed higher secondary education in experimental 9(36%) and control group 7(46.6%).

- 6.1.3 In the experimental group, majority, 16 (64%) Alcoholics were working under private sector and in control group, 7 (46.6%) Alcoholics were working under private sector.
- 6.1.4 Data on monthly income which reveals that, most of them earning ₹10,001-15000 in both experimental 9(36 %) and control group 6 (40%).
- 6.1.6 The data on religion which reveals that, majority were belongs to Hindu religion in both experimental 21 (84%) and control group 12(80%)
- 6.1.7 The data on residence which reveals that majority resides in urban area in both experimental 16 (64%) and control group 11 (73.33%).
- 6.1.8 Marital status reveals that in experimental group, most of them 22 (88%) were married, and in control group 13(86.7%) were married.
- 6.1.9 The data on number of children explain that most of the alcoholics have two children both experimental 12(52.17%) and control group 6 (46.15%).
- 6.1.10 The data on number of times hospitalization due to alcoholism reveals that in majority of Alcoholics were hospitalized 2 times to the maximum in both experimental 16(64%) and control group 9(60%).
- 6.1.11 Data on duration of alcohol intake reveals that most of them in both experimental 10(40%) and control group 7 (46.7%) were consuming alcohol between 5 -10 years.
- 6.1.12 Data on age at first taken alcohol reveals that in both most of them had started to taking alcohol between 15-25 years of age in experimental 12(48%)and in control group 8 (53.4%).

- 6.1.13 Data on occasion of drinking reveals that most of them consuming alcohol throughout the day and only at the night time in both experimental 11(44%) and control group 7 (46.6%).
- 6.1.14 Data on of mode of introduction of alcohol reveals that most of them was introduced to alcohol by their friends in both experimental 19(76%) and control group 13(86.7%).
- 6.1.15 Data on type of drink used among alcoholics reveals that in experimental group 9 members (36%) have used brandy and in control group 4 members (26.6%) used brandy, 4 members (26.6%) used beer and 4 members (26.6%) used whisky.
- 6.1.16 Data on intake of alcohol with companionship reveals that majority take alcohol without companionship in both experimental 18(72%) and control group 12(73.3%).
- 6.1.17 Among experimental group, 4 members had moderate level of depression, and 21 members had severe level of depression in pretest. Whereas after the intervention it was found that, 13 members had mild level of depression, and 12 members had moderate level of Depression.
- 6.1.18 Among the study subjects in experimental group the mean depression score was reduced from 34.84 to 14.84 after Sudarshan Kriya Yoga. Hence there is a significant difference in the level of depression among experimental group.
- 6.1.19 In pretest, 21 alcoholics had scored between 31-63(severe), but after Sudarshan Kriya Yoga their depression level was reduced below score of 31. In control group, on pretest there were 12 alcoholics scored between 31-63 (severe). In post test one has scored between 31-63 (severe). This shows there is reduction in the depression scores.

6.2 Limitation

- 6.2.1 Sudarshan Kriya Yoga is highly technical, since the researcher obtain support and assistance from the trained yoga therapist from Art of living for administering yoga to conduct the study.
- 6.2.2 Sample size of the study was small which limits the generalization of the study findings.

6.3 Recommendations

- 6.3.1 All staff nurses have to be trained to implement Sudarshan Kriya Yoga to reduce the level of Depression among Alcoholics.
- 6.3.2 A similar study can be conducted among the people with various substance abuse disorders.
- 6.3.3 A study can be conducted to compare the level of depression among hospitalized and non-hospitalized Alcoholics.
- 6.3.4 Further research can be carried out to find out the effect of Sudarshan Kriya Yoga therapy on other disease condition like anxiety and major depressive disorders.

6.4 Nursing Implication

6.4.1 Nursing Education

Sudarshan Kriya Yoga is proved to reduce the depression level among Alcoholics. Nurse educators need to have knowledge and awareness on Sudarshan Kriya Yoga, as it is an effective measure to reduce depression. So, the importance of Sudarshan Kriya Yoga can be utilized and included in the Nursing Curriculum.

6.4.2 Nursing Administration

The nurse administrator can draw written policies regarding Sudarshan Kriya Yoga to decrease the level of depression among alcoholics. There by the staff nurses are kept in pace with the evidence based practice.

6.4.3 Nursing Practice

Sudarshan Kriya Yoga is an effective measure to reduce the depression level among alcoholics. Nurses working in alcohol de-addiction centres and hospitals should be trained focus on this Sudarshan Kriya Yoga. Client with alcoholic depression can be trained to use Sudarshan Kriya Yoga which help them to counteract depression.

6.4.4 Nursing Research

The study has tested the effectiveness of Sudarshan Kriya Yoga on depression among alcoholics. It can be used as evidence based practice for reducing depression. Similar studies can be undertaken for assessing the depression among alcoholics in different settings.

6.5 Conclusion

The study was conducted to find the effect of Sudarshan Kriya Yoga on Depression among Alcoholics. A high prevalence of major depression was found for the alcoholics. Sudarshan Kriya Yoga helps to detoxifies the body and purifies the mind also helps in decreasing the symptoms of depression. Hence, the researcher concludes that this intervention is an appropriate method to reduce depression among alcoholics.

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ANNEXURE I

Analysis on The Effect of Sudarshan Kriya Yoga on Depression Between Experimental And Control Group

Student 't' test was used to analyse the level of Sudarshan Kriya Yoga on Depression between experimental and control group

$$t = \frac{\overline{X}_1 - \overline{X}_2}{SE}$$

Where,

$$SE \text{ (Standard Error) } = SD \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

$$SD \text{ (Combined standard deviation) } = \sqrt{\frac{\sum (x_1 - \overline{x}_1)^2 + \sum (x_2 - \overline{x}_2)^2}{n_1 + n_2 - 2}}$$

$$\overline{X}_1 = \text{Mean of the experimental group}$$

$$\overline{X}_2 = \text{Mean of the control group post}$$

$$n_1 = \text{Number of samples in experimental group}$$

$$n_2 = \text{Number of samples in control group}$$

ANNEXURE I- 1
Analysis on Level of Depression Before Sudarshan kriya yoga among
Experimental and control group

S.No	Experimental Group			Control Group		
	X_1	$X_1 - \bar{X}_1 = D_1$	D_1^2	X_2	$X_2 - \bar{X}_2 = D_2$	D_2^2
1.	27	7.84	61.46	42	5.67	32.148
2.	40	5.16	26.62	37	0.67	0.44
3.	38	-3.16	9.985	39	2.67	7.12
4.	37	2.16	4.6656	37	0.67	0.44
5.	31	-3.84	14.7	41	4.67	21.80
6.	30	-4.84	23.42	29	-7.33	53.72
7.	33	-1.84	3.38	26	-10.33	106.70
8.	45	10.16	103.22	39	2.67	7.12
9.	41	6.16	37.94	27	-9.33	87.04
10.	36	1.16	1.345	42	5.67	32.14
11.	51	16.16	261.14	32	-4.33	18.74
12.	34	-0.84	0.705	37	0.67	0.44
13.	38	3.16	9.98	36	0.33	0.108
14.	32	-2.84	8.06	44	7.67	58.82
15.	27	-7.84	61.46	37	0.67	0.448
16.	35	0.016	0.025			
17.	37	2.16	4.66			
18.	31	-3.84	14.7			
19.	31	-3.84	14.7			
20.	30	-4.84	23.42			
21.	31	-3.84	14.7			
22.	36	1.16	1.345			
23.	36	1.16	1.345			
24.	31	-3.84	14.7			
25.	33	-1.84	3.385			
	34.84		721.05	36.33		427.224

$$SD = \sqrt{\frac{\sum (x_1 - \bar{x}_1)^2 + \sum (x_2 - \bar{x}_2)^2}{n_1 + n_2 - 2}} = \sqrt{\frac{721.05 + 427.224}{25 + 15 - 2}} = 5.49$$

$$SE = SD \sqrt{\frac{1}{n_1} + \frac{1}{n_2}} = 5.49 \sqrt{\frac{1}{30} + \frac{1}{30}} = 1.81$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{SE} = 34.84 - 36.33 / 1.81 = 0.81$$

$t = 0.81$

ANNEXURE I-2

Analysis on Level of Depression After Sudarshan kriya yoga among Experimental and control group

S.No	Experimental Group			Control Group		
	X_1	$X_1 - \bar{X}_1 = D_1$	D_1^2	X_2	$X_2 - \bar{X}_2 = D_2$	D_2^2
1.	9	-5.84	34.10	29	2.47	6.1009
2.	12	-2.84	8.06	21	-5.53	30.58
3.	11	-3.84	14.74	29	2.47	6.1009
4.	18	3.16	9.98	26	-0.53	0.280
5.	15	0.16	0.025	25	-1.53	2.340
6.	12	-2.84	8.065	27	0.47	0.220
7.	22	7.16	51.26	24	-2.53	6.400
8.	24	9.16	83.90	27	0.47	0.220
9.	10	-4.84	23.42	19	-7.53	56.70
10.	17	2.16	4.66	27	0.47	0.220
11.	17	2.16	4.66	28	1.47	2.160
12.	12	-2.84	8.06	32	5.47	29.92
13.	22	7.16	51.26	30	3.47	12.04
14.	14	-0.84	0.70	27	0.47	0.220
15.	14	-0.84	0.70	27	0.47	0.220
16.	12	-2.84	8.06			
17.	12	-2.84	8.06			
18.	15	0.16	0.025			
19.	13	-1.84	3.38			
20.	17	2.16	4.66			
21.	14	-0.84	0.70			
22.	15	0.16	0.025			
23.	15	0.16	0.025			
24.	14	-0.84	0.70			
25.	15	0.16	0.025			
	371		329.25	398		153.72

$$SD = \sqrt{\frac{\sum (x_1 - \bar{x}_1)^2 + \sum (x_2 - \bar{x}_2)^2}{n_1 + n_2 - 2}} = \sqrt{\frac{329.25 + 153.72}{25 + 15 - 2}} = 3.56$$

$$SE = SD \sqrt{\frac{1}{n_1} + \frac{1}{n_2}} = 3.56 \sqrt{\frac{1}{30} + \frac{1}{30}} = 1.12$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{SE} = 14.84 - 26.53 / 1.12 = -10.43$$

$t = 10.43$

ANNEXURE II

Analysis on difference between pretest and post test level of Depression in both groups

Paired 't' test was used to analyse the difference between pre and post test level of Anxiety in both groups.

$$t = \frac{\bar{d}}{SE}$$

where,

$$SE = \frac{SD}{\sqrt{n}}$$

$$SD = \sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{n}}{n-1}}$$

$$\bar{d} = \text{Mean of difference between test score}$$

$$SE = \text{Standard Error}$$

$$\sum D = \text{Sum of mean difference between test scores}$$

$$\sum D^2 = \text{Sum of square of mean difference between the test scores}$$

$$SD = \text{Standard deviation of the test score}$$

$$n = \text{Number of samples}$$

ANNEXURE II -1

Effect of Sudarshan Kriya Yoga on Depression among Alcoholics in experimental group

S.No	Pre test (x ₁)	Post test (x ₂)	X ₁ -X ₂ =D	D ²
1	27	9	18	324
2	40	12	28	784
3	38	11	27	729
4	37	18	19	361
5	31	15	16	256
6	30	12	18	324
7	33	22	11	121
8	45	24	21	441
9	41	10	31	961
10	36	17	19	361
11	51	17	34	1156
12	34	12	22	484
13	38	22	16	256
14	32	14	18	324
15	27	14	13	169
16	35	12	23	529
17	37	12	25	625
18	31	15	16	256
19	31	13	18	324
20	30	17	13	169
21	31	14	17	289
22	36	15	21	441
23	36	15	21	441
24	31	14	17	289
25	33	15	18	324
			$\Sigma D = 500$	$\Sigma D^2 = 10738$

$$\text{Standard Deviation} = \sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{n}}{n-1}} = \sqrt{\frac{10738 - (500)^2/25}{25-1}} = 5.54$$

$$\bar{d} = \frac{\Sigma D}{n} = 500/25 = 20$$

$$SE = \frac{SD}{\sqrt{n}} = 5.53/\sqrt{25} = 1.108$$

$$t = \frac{\bar{d}}{SE} = \frac{13.9}{1.108} = 18.05$$

$t = 18.05$

ANNEXURE II-2

Effect of Sudarshan Kriya Yoga on Depression among Alcoholics in control group

S.No	Pre test (x ₁)	Post test (x ₂)	X ₁ -X ₂ =D	D ²
1	42	29	13	169
2	37	21	16	256
3	39	29	10	100
4	37	26	11	121
5	41	25	16	256
6	29	27	2	4
7	26	24	2	4
8	39	27	12	144
9	27	19	8	64
10	42	27	15	225
11	32	28	14	196
12	37	32	5	25
13	36	30	5	36
14	44	27	17	289
15	37	27	10	100
			$\Sigma D = 157$	$\Sigma D^2 = 1989$

$$\text{Standard Deviation} = \sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{n}}{n-1}} = \sqrt{\frac{1986 - \frac{(157)^2}{15}}{15-1}} = 24.48$$

$$\bar{d} = \frac{\Sigma D}{n} = \frac{157}{15} = 10.46$$

$$SE = \frac{SD}{\sqrt{n}} = \frac{24.48}{\sqrt{15}} = \frac{24.48}{3.87} = 6.32$$

$$t = \frac{\bar{D}}{SE} = \frac{10.46}{6.32} = 1.65$$

$t = 1.65$

ANNEXURE III

Chi-Square test analysis between the pretest level of Anxiety and selected demographic variables.

Chi-Square (with yates correction) test was used to check the association between the pre test level of Anxiety and selected demographic variables.

$$\chi^2 = \sum \frac{((O - E) - 0.5)^2}{E}$$

where,

O = Observed value

E = Expected value in corresponding category

$$E = \frac{RT \times CT}{N}$$

RT = Row total

CT = Column total

N = Number of samples

0.5 = Yates correction value

CHI SQUARE TEST
ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND AGE
AMONG ALCOHOLICS

Age	Mild	Moderate	Severe	Total
20-30	-	2	5	7
31-40	-	4	17	21
41-50	-	1	8	9
51-60	-	0	3	3

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
2	$E_2 = \frac{7 \times 7}{40}$	1.225	0.775	0.275	0.075	0.06
4	$E_4 = \frac{7 \times 21}{40}$	3.67	0.33	0.17	0.28	0.0076
1	$E_1 = \frac{7 \times 9}{40}$	1.575	-0.57	1.07	1.1449	0.72
0	$E_0 = \frac{7 \times 3}{40}$	0.525	-0.525	1.025	1.050	2
5	$E_5 = \frac{33 \times 7}{40}$	5.77	-0.77	1.27	1.61	0.27
17	$E_{17} = \frac{33 \times 21}{40}$	17.3	-0.3	1.5	0.25	0.01
8	$E_8 = \frac{33 \times 9}{40}$	7.42	0.58	0.08	0.0064	0.011
3	$E_3 = \frac{33 \times 3}{40}$	2.47	0.53	0.03	0.0009	0.0016
						3.17

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
EDUCATION AMONG ALCOHOLICS**

Education	Mild	Moderate	Severe	Total
No formal education		-	1	1
Primary Education		1	6	7
Secondary education		1	8	9
Higher Secondary Education		3	13	16
Graduate		2	5	7
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-R	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
1	$E_1 = \frac{7 \times 1}{40}$	0.175	-0.175	-0.725	0.525	0.334
1	$E_1 = \frac{7 \times 9}{40}$	1.57	-0.57	-1.07	1.449	0.922
3	$E_3 = \frac{7 \times 16}{40}$	2.8	0.2	-0.3	0.09	0.032
2	$E_2 = \frac{7 \times 7}{40}$	1.225	0.775	0.275	0.07	0.057
1	$E_1 = \frac{33 \times 1}{40}$	0.825	0.175	-0.325	0.10	0.12
6	$E_6 = \frac{33 \times 7}{40}$	5.775	0.225	-0.275	0.07	0.012
8	$E_8 = \frac{33 \times 9}{40}$	7.42	0.58	-1.08	0.0064	0.00086
13	$E_{13} = \frac{33 \times 16}{40}$	13.2	-0.2	-0.7	0.49	0.037
5	$E_5 = \frac{33 \times 7}{40}$	5.775	-0.775	-1.275	1.625	0.28
						4.394

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
OCCUPATION AMONG ALCOHOLICS**

Occupation	Mild	Moderate	Severe	Total
Self employed		3	9	12
Private employee		3	20	23
Govt. employee		1	3	4
Un employee		0	1	1
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
3	$E_3 = \frac{7 \times 12}{40}$	2.1	0.9	0.4	0.16	0.076
3	$E_3 = \frac{7 \times 23}{40}$	4.025	1.025	0.525	0.27	0.067
1	$E_1 = \frac{7 \times 46}{40}$	0.7	0.3	-0.2	0.04	0.57
0	$E_0 = \frac{7 \times 1}{40}$	0.175	0.3	0.675	0.455	2.6
9	$E_9 = \frac{33 \times 12}{40}$	9.9	-0.175	-1.4	1.96	0.19
20	$E_6 = \frac{33 \times 23}{40}$	18.9	1.1	0.6	0.36	0.019
3	$E_3 = \frac{33 \times 4}{40}$	3.3	-0.3	-0.8	0.64	0.19
1	$E_{13} = \frac{33 \times 1}{40}$	0.825	0.175	-0.325	0.105	0.127
						3.839

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
INCOME AMONG ALCOHOLICS**

Income	Mild	Moderate	Severe	Total
Below Rs.10000		0	1	1
Rs.10,001-15,000		4	11	15
Rs.15,001-20,000		2	11	13
Rs.20,001-25,000		1	7	8
25,000 – Above 25,000			3	3

0	$E = \frac{RTXCT}{N}$	E	O-R	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
0	$E_0 = \frac{7 \times 1}{40}$	0.175	-0.175	-0.675	0.455	2.60
4	$E_4 = \frac{7 \times 15}{40}$	2.625	1.375	0.875	0.765	0.291
2	$E_2 = \frac{7 \times 13}{40}$	2.275	-0.275	0.775	0.6006	0.264
1	$E_1 = \frac{7 \times 8}{40}$	1.4	-0.4	-0.9	0.81	0.57
0	$E_1 = \frac{7 \times 3}{40}$	0.525	-0.525	-1.025	1.05	2.00
1	$E_1 = \frac{33 \times 1}{40}$	0.825	0.175	0.325	0.1056	0.12
11	$E_{11} = \frac{33 \times 15}{40}$	12.375	1.375	0.875	0.765	0.0618
11	$E_{11} = \frac{33 \times 13}{40}$	10.72	0.28	-0.1	0.0484	0.0023
7	$E_7 = \frac{33 \times 8}{40}$	6.6	0.4	-0.22	0.01	0.0001
3	$E_3 = \frac{33 \times 3}{40}$	2.475	0.525	0.025	0.00062	0.0000003
						5.909

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
RELIGION AMONG ALCOHOLICS**

Religion	Mild	Moderate	Severe	Total
Hindu	0	6	0.27	33
Christian	0	1	6	7
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
6	$E_6 = \frac{7 \times 33}{40}$	5.775	0.225	-0.275	0.075	0.012
1	$E_1 = \frac{7 \times 7}{40}$	1.225	-0.225	0.725	0.525	0.428
27	$E_{27} = \frac{33 \times 33}{40}$	27.22	-0.22	-0.72	0.518	0.019
6	$E_6 = \frac{33 \times 7}{40}$	5.775	0.225	-0.275	0.075	0.012
						0.471

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
RESIDENCE AMONG ALCOHOLICS**

Resident	Mild	Moderate	Severe	Total
Rural		2	11	13
Urban		5	22	27
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
2	$E_2 = \frac{7 \times 13}{40}$	2.275	0.275	-0.225	0.50	0.02
5	$E_1 = \frac{7 \times 27}{40}$	4.725	0.275	-0.225	0.50	0.010
11	$E_{27} = \frac{33 \times 13}{40}$	10.7	0.3	-0.2	0.04	0.003
22	$E_6 = \frac{33 \times 27}{40}$	22.27	-0.27	-0.77	0.59	0.026
						0.059

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND AND
MARITAL STATUS AMONG ALCOHOLICS**

Marital Status	Mild	Moderate	Severe	Total
Married		6	29	35
Unmarried		1	3	4
Divorced		0	1	1
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
6	$E_6 = \frac{7 \times 35}{40}$	6.125	-0.125	-0.625	0.390	0.06
1	$E_1 = \frac{7 \times 4}{40}$	0.7	0.3	-0.2	0.04	0.057
0	$E_0 = \frac{7 \times 1}{40}$	0.175	-0.175	-0.675	0.455	2.60
29	$E_{29} = \frac{33 \times 35}{40}$	28.87	0.13	-0.37	0.13	0.004
3	$E_3 = \frac{33 \times 4}{40}$	3.3	-0.3	-0.8	0.64	0.19
1	$E_1 = \frac{33 \times 1}{40}$	0.825	0.175	-0.325	0.10	0.12
						3.03

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
NUMBER OF CHILDREN AMONG ALCOHOLICS**

Number of children	Mild	Moderate	Severe	Total
No children		1	2	3
One		4	8	12
Two		1	17	18
More than 2		0	3	3
		6	30	36

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
1	$E_1 = \frac{6 \times 3}{36}$	0.5	0.5	0	0	0
4	$E_4 = \frac{6 \times 12}{36}$	2	2	1.5	2.25	1.125
1	$E_1 = \frac{6 \times 18}{36}$	3	-2	-2.5	6.25	2.08
0	$E_0 = \frac{6 \times 3}{36}$	0.5	-0.5	1	1	0.4
2	$E_2 = \frac{30 \times 3}{36}$	2.5	6.34	-1	1	0.4
8	$E_8 = \frac{30 \times 12}{36}$	1.66	6.34	-0.16	0.256	0.15
17	$E_{17} = \frac{30 \times 18}{36}$	15	2	1.5	2.25	0.15
3	$E_3 = \frac{30 \times 3}{36}$	2.5	.5	0	0	0
						4.305

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
NUMBER OF HOSPITALIZATION DUE TO ALCOHOLISM AMONG
ALCOHOLICS**

Number of Hospitalization	Mild	Moderate	Severe	Total
1 time		3	11	14
2 time		4	21	25
3 time		0	1	1
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
3	$E_3 = \frac{7 \times 14}{40}$	2.45	0.55	0.05	0.0025	0.010
4	$E_4 = \frac{7 \times 25}{40}$	4.375	-0.375	-0.875	0.765	0.17
0	$E_0 = \frac{9 \times 1}{40}$	0.175	-0.175	-0.675	0.455	2.6
11	$E_{11} = \frac{33 \times 14}{40}$	11.55	-0.55	-1.05	1.102	0.095
21	$E_{21} = \frac{33 \times 25}{40}$	20.625	0.375	-0.125	0.015	0.007
1	$E_1 = \frac{33 \times 1}{40}$	0.825	0.175	-0.325	0.105	0.12
						2.995

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
DURATION OF ALCOHOLISM AMONG ALCOHOLICS**

Duration of alcoholism	Mild	Moderate	Severe	Total
Less than 5 years		0	10	10
More than 5 years		4	13	17
More than 10 years		3	10	13
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
0	$E_0 = \frac{7 \times 10}{40}$	1.75	-1.75	-2.25	5.06	2.89
4	$E_4 = \frac{7 \times 17}{40}$	2.975	1.025	0.525	0.275	0.092
3	$E_3 = \frac{7 \times 13}{40}$	2.275	1.725	1.225	1.500	0.65
10	$E_{10} = \frac{33 \times 10}{40}$	8.25	1.75	1.25	1.56	0.18
13	$E_{13} = \frac{33 \times 17}{40}$	14.025	1.025	0.525	0.275	0.019
10	$E_{10} = \frac{33 \times 13}{40}$	10.72	0.72	0.22	0.484	0.045

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
AGE AT FIRST CONSUMED ALCOHOL(YEARS)AMONG
ALCOHOLICS**

Age at first consumed alcohol(years	Mild	Moderate	Severe	Total
15-25		5	15	20
25-35		2	13	15
36-45		0	5	5
46-55		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
5	$E_5 = \frac{7 \times 20}{40}$	3.5	1.5	1	1	0.285
2	$E_2 = \frac{7 \times 15}{40}$	2.625	-0.625	0.125	0.015	0.005
0	$E_0 = \frac{7 \times 5}{40}$	0.875	-0.875	-1.375	1.89	2.16
15	$E_{15} = \frac{33 \times 20}{40}$	16.5	-1.5	-2	4	0.242
13	$E_{13} = \frac{33 \times 15}{40}$	12.3	0.7	0.2	0.04	0.003
5	$E_5 = \frac{33 \times 13}{40}$	4.125	0.875	-.375	0.140	0.33
						3.025

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
OCCASION OF DRINKING AMONG ALCOHOLICS**

Occasion of drinking	Mild	Moderate	Severe	Total
Throughout the day	-	4	14	18
Only at the Night time	-	3	15	18
Sad and Happy mood	-	0	4	4

0	$E = \frac{RTXCT}{N}$	E	O-E	$(O-E)-0.5$	$(O-E)-(0.5)^2$	$\frac{[(O-E)-0.5]^2}{E}$
4	$E_4 = \frac{7 \times 20}{40}$	3.15	0.85	0.35	0.1225	0.038
3	$E_3 = \frac{7 \times 15}{40}$	3.15	-0.15	-0.65	0.4225	0.134
0	$E_0 = \frac{7 \times 5}{40}$	0.7	-0.7	-1.2	1.44	2.05
14	$E_{14} = \frac{33 \times 10}{40}$	14.85	-0.85	-1.35	1.8225	0.12
15	$E_{15} = \frac{33 \times 17}{40}$	14.85	0.15	-0.35	0.1225	0.008
4	$E_{14} = \frac{33 \times 13}{40}$	3.3	0.7	0.2	0.04	0.012
						2.362

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
MODE OF INTRODUCTION OF ALCOHOL AMONG ALCOHOLICS**

Mode of introduction of alcohol	Mild	Moderate	Severe	Total
Friends		6	26	32
Relatives		1	7	8
		7	33	40

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
6	$E_6 = \frac{7 \times 3}{40}$	5.6	0.4	-0.1	0.01	0.0017
1	$E_1 = \frac{7 \times 8}{40}$	1.4	-0.4	-0.9	0.81	0.57
26	$E_{26} = \frac{33 \times 32}{40}$	26.4	-0.4	-0.9	0.81	0.30
7	$E_7 = \frac{33 \times 8}{40}$	6.6	0.4	-0.1	0.01	0.0015
						0.603

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
TYPE OF DRINK AMONG ALCOHOLICS**

Type of Drink	Mild	Moderate	Severe	Total
Rum		1	5	6
Beer		2	8	11
Brandy		2	11	13
Whisky		2	8	10

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O-E)-0.5]^2}{E}$
1	$E_1 = \frac{7 \times 6}{40}$	1.05	0.05	-0.45	0.2025	0.19
2	$E_2 = \frac{7 \times 11}{40}$	1.925	-0.075	-0.575	0.330	0.17
2	$E_2 = \frac{7 \times 13}{40}$	2.275	-0.275	0.775	0.600	2.63
2	$E_2 = \frac{7 \times 10}{40}$	1.75	0.25	-0.25	0.0625	0.035
5	$E_5 = \frac{33 \times 6}{40}$	4.95	0.05	-0.45	0.20	0.040
9	$E_9 = \frac{33 \times 11}{40}$	9.075	0.075	0.25	0.1806	0.019
11	$E_{11} = \frac{33 \times 13}{40}$	10.725	0.275	-0.225	0.50	0.007
8	$E_8 = \frac{33 \times 10}{40}$	8.25	-0.25	-0.75	0.56	0.067
						3.155

**ANALYSIS BETWEEN PRETEST LEVEL OF DEPRESSION AND
DRINKING WITH COMPANIONSHIP AMONG ALCOHOLICS**

Drinking with companionship	Mild	Moderate	Severe	Total
Yes		6	23	29
No		1	10	11

0	$E = \frac{RTXCT}{N}$	E	O-E	(O-E)- 0.5	(O-E)- (0.5) ²	$\frac{[(O - E) - 0.5]^2}{E}$
6	$E_6 = \frac{7 \times 29}{40}$	5.075	0.925	0.425	0.180	0.035
1	$E_1 = \frac{7 \times 11}{40}$	1.92	-0.92	-1.42	2.01	1.04
23	$E_{23} = \frac{33 \times 29}{40}$	23.9	-0.9	-1.4	1.96	0.082
10	$E_{10} = \frac{33 \times 11}{40}$	9.07	0.93	0.43	0.184	0.02
						1.177

**TOOLS FOR ASSESSMENT OF DEPRESSION AMONG
ALCOHOLICS**

SECTION-A

DEMOGRAPHIC VARIABLES

1. Sample Number

2. Age

- a) 20-30 years ☐
- b) 31-40 years ☐
- c) 41-50 years ☐
- d) 51-60 years ☐

3. Education

- a) No formal education ☐
- b) Primary education ☐
- c) Secondary education ☐
- d) Higher secondary education ☐
- e) Graduate ☐

4. Occupation

- a) Self employed ☐
- b) Private employee ☐
- c) Government employee ☐
- d) Un employed ☐

5. Income

- a) Below Rs. 10,000 ☐
- b) Rs.10,001 – 15,000 ☐
- c) Rs15,001-20,000 ☐
- d) Rs20,001-25,000 ☐
- e) Above 25001 ☐

6. Religion

- | | |
|--------------|----------------------|
| a) Hindu | <input type="text"/> |
| b) Christian | <input type="text"/> |
| c) Muslim | <input type="text"/> |
| d) Others | <input type="text"/> |

7. Residence

- | | |
|----------|----------------------|
| a) Rural | <input type="text"/> |
| b) Urban | <input type="text"/> |

8 Marital status

- | | |
|--------------|----------------------|
| a) Married | <input type="text"/> |
| b) Unmarried | <input type="text"/> |
| c) Divorced | <input type="text"/> |
| d) Widow | <input type="text"/> |

9 Number of children

- | | |
|------------------|----------------------|
| a) No children | <input type="text"/> |
| b) One | <input type="text"/> |
| c) Two | <input type="text"/> |
| d) More than two | <input type="text"/> |

10 Number of admission in the hospital

- | | |
|----------------------|----------------------|
| a) 1 time | <input type="text"/> |
| b) 2 times | <input type="text"/> |
| c) 3 times | <input type="text"/> |
| d) More than 3 times | <input type="text"/> |

11 Duration of alcoholism

- | | |
|-----------------------|----------------------|
| a) Less than 5 years | <input type="text"/> |
| b) More than 5 years | <input type="text"/> |
| c) More than 10 years | <input type="text"/> |

12 Age at which you had tasted alcohol?

13 How often do you drink?

14 Who introduced alcohol to you?

a) Friends

b) Relatives

c) Media

d) Others

15 What do you drink?

16 Do you drink alone?

a) If yes, where?

b) If no, with whom?

SECTION-B

Below is the list of common symptoms of depression. Please carefully read each item in the list. Indicate how much you have bothered by that symptoms during the past two weeks including today, by circling a number in the each item.

1. Sadness

- 0. I do not feel sad
- 1. I feel sad so much of the time.
- 2. I am sad all the time.
- 3. I am so sad or unhappy that I can't stand it.

2. Pessimism

- 0. I am not discouraged about my future
- 1. I feel more discouraged about my future than I used to be.
- 2. I do not expect things to work out for me.
- 3. I feel my future is hopeless and will only get worse.

3. Past failure

- 0. I do not feel like a failure.
- 1. I have failed more than I should have.
- 2. As I look back, I see a lot of failures.
- 3. I feel I am a total failure as a person.

4. Loss of pleasure

- 0. I get as much pleasure as I ever did from the things I enjoy.
- 1. I don't enjoy things as much as I used to.
- 2. I get little pleasure from the things I used to enjoy.
- 3. I can't get any pleasure from the things I used to enjoy.

5. Guilty feelings

- 0. I don't feel particularly guilty.
- 1. I feel guilty over many things I have done or I should have done.
- 2. I feel quiet guilty most of the time.
- 3. I feel guilty all of the time.

6. Punishment feelings

- 0. I don't feel I am being punished.
- 1. I feel I may be punished.
- 2. I expect to be punished.
- 3. I feel I am being punished.

7. Self – Dislike

- 0. I feel the same about myself as ever.
- 1. I have lost confidence in myself.
- 2. I am disappointed in myself.
- 3. I feel dislike myself

8. Self criticalness

- 0. I don't criticize or blame myself more than usual.
- 1. I am more critical of myself more than I used to be.
- 2. I criticize myself for all of my faults.
- 3. I blame myself for everything bad that happens.

9. Suicidal thoughts or wishes

- 0. I don't have any thoughts of killing myself.
- 1. I have thoughts of killing myself, but I would not carry them out.
- 2. I would like to kill myself.
- 3. I would like to kill myself if I had the chance.

10. Crying

- 0. I don't cry anymore than I used to.
- 1. I cry more than I used to.
- 2. I cry over every little thing.
- 3. I feel like crying, but I can't.

11. Agitation

- 0. I am no more restless or wound up than usual.
- 1. I feel more restless or wound up than usual.
- 2. I am so restless or agitated that it's hard to stay still.
- 3. I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

- 0. I have not lost interest in other people or activities.
- 1. I am less interested in other people or things than before.
- 2. I have loss most of my interest in other people or things.
- 3. It's hard to get interested in anything.

13. Indecisiveness

- 0. I make decisions about as well as ever.
- 1. I find it more difficult to take decisions than usual.
- 2. I have much greater difficulty in making decisions than I used to.
- 3. I have trouble making any decisions.

14. Worthlessness

- 0. I do not feel I am worthless.
- 1. I don't consider myself as worthwhile and useful as I used to.
- 2. I feel more worthless as compared to other people.
- 3. I feel utterly worthless.

15. Loss of Energy

- 0. I have as much energy as ever.
- 1. I have less energy than I used to have.
- 2. I don't have enough energy to do very much.
- 3. I don't have enough energy to do anything.

16. Changes in sleeping pattern

- 0. I have not experienced in any change in sleeping pattern.
- 1a. I sleep somewhat more than usual.
- 1b. I sleep somewhat less than usual.
- 2a. I sleep a lot more than usual.
- 2b. I sleep a lot less than usual.
- 3a. I sleep most of the day.
- 3b. I wake up 1 – 2 hours early and can't get back to sleep.

17. Irritability

- 0. I am no more irritable than usual.
- 1. I am more irritable than usual.
- 2. I am much more irritable than usual.
- 3. I am irritable all the time.

18. Changes in appetite

- 0. I have not experienced any change in my appetite.
- 1a. My appetite is somewhat less than usual.
- 1b. My appetite is somewhat greater than usual.
- 2a. My appetite is much less than usual.
- 2b. My appetite is much greater than usual.
- 3a. I have no appetite at all.
- 3b. I crave food all the times.

19. Concentration difficulty

- 0. I can concentrate as well as ever.
- 1. I can't concentrate as well as usual.
- 2. Its hard to keep my mind on anything for very long.
- 3. I found I can't concentrate on anything.

20. Tiredness or fatigue.

- 0. I am no more tired or fatigued than usual.
- 1. I get more tired or fatigued more easily than usual.
- 2. I am too tired or fatigued to do a lot of things I used to do.
- 3. I am too tired or fatigued to do most of the things I used to do.

21. Loss of interest in sex.

- 0. I have not noticed any recent change in my interest in sex.
- 1. I am less interested in sex than I used to be.
- 2. I am much less interested in sex now.
- 3. I have lost interest in sex completely.

INTERPRETATION:

Level of Depression	Score
Mild depression (<15)	1-14
Moderate depression (15-30)	15-30
Severe depression (>30)	31-63

**குடிப்பழக்கத்திற்கு அடிமையானவர்களின் மனவருத்தத்தைத் மதிப்பீடு செய்ய உதவும்
கருவிகள்**

கீழே கொடுக்கப்பட்டுள்ள வரிகளை கவனமாக படித்து அதிலிருந்து சரியான
ஒன்றை (✓) தேர்வு செய்க

**பகுதி - அ
சுயக்குறிப்பு**

1. மாதிரி எண்

2. வயது

- | | |
|--------------------|--------------------------|
| அ. 20-30 வருடங்கள் | <input type="checkbox"/> |
| ஆ. 31-40 வருடங்கள் | <input type="checkbox"/> |
| இ. 41-50 வருடங்கள் | <input type="checkbox"/> |
| ஈ. 51-60 வருடங்கள் | <input type="checkbox"/> |

3. கல்வித்தகுதி

- | | |
|--------------------|--------------------------|
| அ. படிக்காதவர் | <input type="checkbox"/> |
| ஆ. ஆரம்பக்கல்வி | <input type="checkbox"/> |
| இ. இடைநிலைக்கல்வி | <input type="checkbox"/> |
| ஈ. உயர்நிலைக்கல்வி | <input type="checkbox"/> |
| உ. பட்டதாரி | <input type="checkbox"/> |

4. தொழில்

- | | |
|--------------------------|--------------------------|
| ஆ. சுயத்தொழில் | <input type="checkbox"/> |
| ஆ. தனியார் நிறுவன ஊழியர் | <input type="checkbox"/> |
| இ. அரசு ஊழியர் | <input type="checkbox"/> |
| ஈ. பணியில் இல்லை | <input type="checkbox"/> |

5. குடும்ப வருமானம்

- | | |
|---------------------------|--------------------------|
| அ. ரூ. 10000த்திற்கு கீழ் | <input type="checkbox"/> |
| ஆ. ரூ. 10001 -15000 | <input type="checkbox"/> |
| இ. ரூ. 15001-20000 | <input type="checkbox"/> |
| ஈ. ரூ. 20001-25000 | <input type="checkbox"/> |
| உ. ரூ. 25001க்கு மேல் | <input type="checkbox"/> |

6. மதம்

- அ. இந்து ☐
- ஆ. கிறிஸ்தவர் ☐
- இ. முஸ்லிம் ☐
- ஈ. பிற மதத்தை சார்ந்தவர் ☐

7. இருப்பிடம்

- அ. கிராமம் ☐
- ஆ. நகரம் ☐

8. திருமண நிலை

- அ. திருமணமானவர் ☐
- ஆ. திருமணமாகாதவர் ☐
- இ. விவாகரத்துப்பெற்றவர் ☐
- ஈ. விதவை ☐

9. குழந்தைகள்

- அ. குழந்தையின்மை ☐
- ஆ. 1 குழந்தை ☐
- இ. 2 குழந்தைகள் ☐
- ஈ. 2 குழந்தைகளுக்கு மேல் ☐

10. மருத்துவமனையில் அனுமதிக்கப்பட்டதின் எண்ணிக்கை

- அ. ஒரு முறை ☐
- ஆ. இரு முறை ☐
- இ. மூன்று முறை ☐
- ஈ. மூன்றிற்கும் அதிகமான முறை ☐

11. குடிப்பழக்கத்தின் காலம்

- அ. 5 வருடங்களுக்கு கீழ் ☐
- ஆ. 5 வருடங்களுக்கு மேல் ☐
- இ. 10 வருடங்களுக்கு மேல் ☐

12. முதல் முறையாக மதுவை சுவைத்த

பொழுது உங்கள் வயது என்ன?

13. எப்பொழுது மது அருந்துவீர்கள்?

14. உங்களுக்கு மதுப்பழக்கத்தை அறிமுகப்படுத்தியவர் யார்?

அ. நண்பர்கள்

☐

ஆ. சொந்தங்கள்

☐

இ. ஊடகங்கள்

☐

ஈ. மற்றவை

☐

15. எந்த வகை மதுவை அருந்துவீர்கள்?

16. தனியாக மது அருந்துவீர்களா?

ஆம் என்றால், எங்கே?

இல்லை என்றால், யாருடன்?

பகுதி ஆ

பெக் மன வருத்தத்தை கண்டறிவதற்கான அளவுகோள்

கீழே கொடுக்கப்பட்டுள்ள வரிகளை கவனமாக படித்து அதிலிருந்து சரியான ஒன்றை (✓) தேர்வு செய்க

கீழ்க்கண்ட அறிக்கைகளில் சரியானவற்றை குறியிடுக

1. துக்கம்

- 0. நான் துக்கமாய் உணரவில்லை
- 1. நான் அதிக நேரம் துக்கப்படுகிறேன்
- 2. நான் எப்பொழுதும் துக்கப்படுகிறேன்
- 3. நான் தாங்க முடியாத அளவிற்கு துக்கமாக இருக்கிறேன்

2. எதிர்மறை சிந்தனை

- 0. நான் எதிர்காலத்தைப் பற்றி அச்சம் கொள்வதில்லை
- 1. நான் எதிர்காலத்தைப் பற்றி வழக்கதிற்கு அதிகமாகக் அச்சப்படுகிறேன்
- 2. எனது வேலைகள் சரியாக நடக்கும் என்று எதிர்பார்க்கவில்லை
- 3. நான் எதிர்காலத்தை குறித்து நம்பிக்கை அற்றதாகவும் மேலும் மோசமாக மட்டுமே இருக்கும் என உணர்கிறேன்

3. கடந்த காலக் தோல்வி

- 0. நான் தோல்வி அடைந்ததாக உணரவில்லை
- 1. நான் அடைந்திருக்க வேண்டிய தோல்விகளுக்கும் மேலாக நான் தோல்விகளை அடைந்தேன்
- 2. நான் கடந்த காலத்தை திரும்பிபார்க்கும்போது அதிக தோல்விகளை பார்க்கிறேன்
- 3. ஒரு தனி மனிதனாக நான் முற்றிலும் தோல்வி அடைந்தவனாக உணர்கிறேன்

4. இன்பமின்மை

0. நான் இதுவரை செய்த காரியங்களில் அடையாத இன்பங்களை அடைந்துள்ளேன்
1. நான் முன்பு சந்தோஷப்பட்டதைபோல இப்பொழுதும் சந்தோஷப்படுகிறேன்
2. நான் முன்பு மிகுந்த இன்பத்தை கொடுத்த விஷயங்களால் தற்பொழுது சிறிதளவு சந்தோஷமே அடைகிறேன்
3. நான் முன்பு சந்தோஷம் அடைந்த விஷயங்களில் தற்போது எந்த இன்பத்தையும் அடையவில்லை

5. குற்ற உணர்ச்சி

0. நான் குறிப்பாக எந்த விஷயங்களிலும் குற்ற உணர்ச்சியாக உணரவில்லை
1. நான் செய்த மற்றும் செய்திருக்க கூடிய விஷயங்களால் குற்ற உணர்ச்சி உள்ளவனாக உணர்கிறேன்
2. நான் பெரும்பான்மையான நேரங்களில் குற்ற உணர்ச்சியை உணர்கிறேன்
3. நான் எல்லா நேரங்களில் குற்ற உணர்ச்சி உள்ளவனாக உணர்கிறேன்

6. தண்டனை உணர்ச்சி

0. நான் தண்டிக்கப்படுவதாக உணரவில்லை
1. நான் தண்டிக்கப்படலாம் என்று உணர்கிறேன்
2. நான் தண்டிக்கப்படுவேன் என எதிர்பார்க்கப்படுகிறேன்
3. நான் தண்டிக்கப்பட்டுக் கொண்டிருப்பதாக உணர்கிறேன்

7. சுய வெறுப்பு

0. நான் என்னை எப்போதும் போலவே உணர்கிறேன்
1. நான் என் மீது உள்ள நம்பிக்கையை இழந்துவிட்டேன்
2. நான் என்னை குறித்து ஏமாற்றம் அடைகிறேன்
3. நான் என்னையே வெறுப்பதாக உணர்கிறேன்

8. கடுமையான சுயவிமர்சனம்

0. வழக்கத்தைவிட அதிகமாக என்னைப்பற்றி நானே விமர்சனம் செய்து கொள்வதோ அல்லது குறை கூறுவதோ இல்லை
1. நான் வழக்கத்தை விட அதிகமாக என்னைப்பற்றி நானே விமர்சிக்கிறேன்
2. நான் என்னுடைய தவறுகளுக்கு என்னையே நொந்து கொள்கிறேன்.
3. எனக்கு நடந்த எல்லா தீமைகளுக்கும் நானே காரணம் என நானே என்னை பழித்து கொள்கிறேன்

9. தற்கொலை எண்ணம்

0. எனக்கு தற்கொலை செய்து கொள்ளும் எண்ணங்கள் ஏதுவும் கிடையாது
1. நான் தற்கொலை செய்து கொள்ள வேண்டும் என்ற எண்ணம் உள்ளது ஆனால் நான் அவ்வாறு செய்ய மாட்டேன்
2. நான் தற்கொலை செய்து கொள்ள விரும்புகிறேன்
3. எனக்கு சந்தர்ப்பம் கிடைக்குமானால் நான் தற்கொலை செய்து கொள்வேன்

10. அழுகை

0. நான் வழக்கத்தைவிட அதிகமாக அழுவதில்லை
1. நான் வழக்கத்தைவிட இப்போது அதிகமாக அழுகிறேன்
2. நான் எல்லா சிறிய விஷயங்களுக்கும் அழுகிறேன்
3. எனக்கு அழத்தோன்றுகின்றது ஆனால் முடியவில்லை

11. மனக்கிளர்ச்சி

0. நான் வழக்கத்தைவிட நிம்மதியற்றவனாக இல்லை
1. நான் வழக்கத்தைவிட அதிகமாக நிம்மதியின்றி இருப்பதாக உணர்கிறேன்
2. நான் மிகவும் நிம்மதியற்றவனாகவும் மேலும் உட்குழப்பத்துடனும் இருப்பதால் எனக்கு அமைதியாக இருப்பது கடினமாக உள்ளது.
3. நான் மிகவும் நிம்மதியற்றவனாகவும் மேலும் உட்குழப்பத்துடனும் இருப்பதால் ஏதேனும் ஒரு செயலை செய்து கொண்டே இருக்க வேண்டிய நிலையில் உள்ளேன்

12. ஆர்வமின்மை

0. நான் மற்றவர்கள் மீதும் அவர்களின் செயல்களின் மீதும் ஈடுபாடு இல்லாமல் இருக்கவில்லை
1. நான் மற்றவர்கள் மீதும் மற்றும் அவர்களின் செயல்கள் மீதும் முன்பைவிட குறைவான ஈடுபாட்டை கொண்டுள்ளேன்
2. நான் மற்றவர்கள் மீதும் அவர்களின் செயல்கள் மீதும் உள்ள ஈடுபாட்டை பெரும்பாலும் இழந்துவிட்டேன்
3. எனக்கு எந்த விஷயங்களிலும் ஈடுபாட்டுடன் இருக்க கடினமாக உள்ளது

13. தீர்மானிக்க இயலாமை

0. நான் எப்பொழுதும் போலவே தீர்மானங்கள் எடுக்கிறேன்
1. நான் முன்பைவிட தீர்மானங்கள் எடுப்பதில் அதிகமான கஷ்டத்தை உணர்கிறேன்
2. நான் முன்பைவிட தீர்மானங்கள் எடுக்க மிகவும் கடினமாக உணர்கிறேன்
3. எனக்கு தீர்மானங்கள் எடுப்பதில் கடினமாக உள்ளது

14. மதிப்பின்மை

0. நான் என்னை பயனற்றவனாக நினைக்கவில்லை
1. நான் முன்பை போல் பயனுள்ளவனாக எண்ணவில்லை
2. நான் மற்றவர்களை விட மதிப்பற்றவனாய் உணர்கிறேன்
3. நான் முற்றிலும் பயனற்றவனாய் உணர்கிறேன்

15. ஆற்றலின்மை

0. எனக்கு எப்போதும் போலவே அதிக ஆற்றல் உள்ளது
1. எனக்கு வழக்கத்தை விட குறைந்த ஆற்றலே உள்ளது
2. எனக்கு போதுமான ஆற்றல் இல்லாமல் உணர்கிறேன்
3. எனக்கு எந்த செயலும் செய்யவும் போதுமான ஆற்றல் இல்லை

16. தூக்க வழக்கத்தில் மாறுபாடு

- 0. எனது தூக்க வழக்கத்தில் எந்த மாறுதலும் ஏற்படவில்லை
- 1.அ. நான் வழக்கத்தை விட அதிகமாக தூங்குகிறேன்
- 1.ஆ. நான் வழக்கத்தை விட குறைவாக தூங்குகிறேன்
- 2.அ. நான் வழக்கத்தை விட மிக அதிகமாக தூங்குகிறேன்
- 2.ஆ. நான் வழக்கத்தை விட மிகக் குறைவாக தூங்குகிறேன்
- 3.அ. நான் ஒரு நாளில் பெரும்பாலான நேரம் தூங்குகிறேன்
- 3.ஆ. நான் வழக்கத்தை விட ஒன்று அல்லது இரண்டு மணிநேரம் முன்னதாக விழித்து கொள்கிறேன் அதன் பின் மறுபடியும் தூங்க முடியவில்லை

17. எரிச்சல்

- 0. நான் வழக்கத்தை விட அதிகமாக எரிச்சல் அடைவதில்லை
- 1. நான் வழக்கத்தை விட அதிகமாக எரிச்சல் அடைகிறேன்
- 2. நான் வழக்கத்தை விட மிகவும் அதிகமாக எரிச்சல் அடைகிறேன்
- 3. நான் எந்தநேரமும் எரிச்சலாக இருக்கிறேன்

18. பசியில் மாறுபாடு

- 0. என்னுடைய பசியில் எந்த மாற்றமும் இல்லை
- 1.அ. எனக்கு பசி வழக்கத்தை விட குறைவாக உள்ளது
- 1.ஆ. எனக்கு பசி வழக்கத்தை விட அதிகமாக உள்ளது
- 2.அ. எனக்கு பசி வழக்கத்தை விட மிகவும் குறைவாக உள்ளது
- 2.ஆ. எனக்கு பசி வழக்கத்தை விட மிகவும் அதிகமாக உள்ளது
- 3.அ. எனக்கு பசி எடுப்பதே இல்லை
- 3.ஆ. எனக்கு எப்பொழுதும் உணவில் அதிக ஆர்வம் உள்ளது

19. கவனத்தில் கடினம்

- 0. என்னால் எப்பொழுதும் போல எதிலும் கவனம் செலுத்த முடிகிறது
- 1. என்னால் எப்பொழுதும் போல கவனம் செலுத்த முடிவதில்லை
- 2. என்னால் எந்த செயலிலும் நீண்ட நேரம் கவனம் செலுத்த கடினமாக உள்ளது
- 3. என்னால் எந்த செயலிலும் கவனம் செலுத்த முடியாவிடில்லை

20. களைப்பு / சோர்வு

0. நான் வழக்கத்தை விட அதிக சோர்வாகவோ அல்லது களைப்பாகவோ இருப்பதில்லை
1. நான் வழக்கத்தை விட சுலபாக அதிக சோர்வு அல்லது களைப்படைகிறேன்
2. நான் அதிக வேலைகள் செய்யும் போது மிகவும் களைப்பு அல்லது சோர்வடைகிறேன்
3. நான் வழக்கமாக செய்யும் செயல்களை செய்யும் பொழுது கூட மிகவும் களைப்பாகவும் அல்லது சோர்வாகவும் உணர்கிறேன்

21. பால் உணர்ச்சியில் (செக்ஸ்) ஆர்வமின்மை

0. எனக்கு பால் உணர்ச்சி (செக்ஸ்) விஷயங்களில் சமீபத்தில் எந்த மாறுதலும் இல்லை
1. எனக்கு முன்னெவிட பால் உணர்ச்சி (செக்ஸ்) விஷயங்களில் ஆர்வம் குறைவாக உள்ளது
2. எனக்கு முன்னெவிட பால் உணர்ச்சி (செக்ஸ்) விஷயங்களில் தற்போது மிகவும் ஆர்வம் குறைந்தவனாக உணர்கிறேன்
3. எனக்கு பால் உணர்ச்சி (செக்ஸ்) விஷயங்களில் கொஞ்சம் கூட ஆர்வம் இல்லை